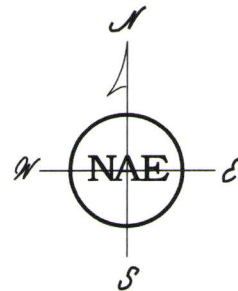


NORTH AMERICAN EXPLORATION, INC.

MINERAL EXPLORATION SERVICES



June 9, 2010

Mr. Paul Baker
Division Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Dear Mr. Baker:

Reference is made to your "Third Review to Commence Large Mine Operations, Desert Hawk Gold Corporation, Cactus Mill, M/045/0049, Tooele County, Utah" which was dated May 19, 2010.

Here is our "redline and strike out" version of the original Notice of Intent. We have also added information to Appendix 5 relating to "Acid Base Potential Yellow Hammer and Kiewitt Ores." If you have any questions in this regard please contact me. Thank you for your work to permit the Cactus Mill.

Sincerely,

O. Jay Gatten

Enclosure

Cc: Correspondence (no encl)
Project (w/encl)
Michael Nelson - BLM (w/encl)
Rick Havenstrite - DHG (no encl)

RECEIVED
JUN 09 2010
DIV. OF OIL, GAS & MINING

Notice of Intention to Amend Large Mining Operations
Desert Hawk Gold Corporation
Cactus Mill
M/045/0049

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Correspondence	

FORM MR-LMO
(Revised June 2007)

FOR DIVISION USE ONLY

File #: M / /Date Received: DOGM Lead: Permit Fee \$ Ck #

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Telephone: (801) 538-5291 Fax: (801) 359-3940

NOTICE OF INTENTION TO AMEND LARGE MINING OPERATIONS**INTRODUCTION**

The Cactus Mill Site is currently operated under Large Mine Permit M/045/049, which is held by Ivanhoe Joint Venture (William Moeller). **This permit allows for the flotation milling of ores.** The permitted mill area is located on Federal land as a mill site claim and part of an unpatented lode mining claim. The purpose of this NOI is to amend this Large Mine Permit, which covers an area about 9.5 acres in size, to allow the Operator, Desert Hawk Gold Corporation, to include a copper heap leach operation testing and processing about 100,000 tons of ore each year over a two year period. The ore would initially be mined at the Yellow Hammer Mine (S/045/0023) which is located about four (4) miles south of the Mill Site. The initial operation on the Cactus Mill Site would involve mining about 8,000 tons of clay nearby to line the entire pad and processing area in order to construct a pad/leach cell about 170,000 square feet (3.9 acres) in size and a processing area. The leach pad, the evaporation/surge pond, and the processing area would be underlain by both the compacted clay liner, and a 60 mil HDPE plastic liner placed above it, to insure that leakage of the leach water does not occur. The pad will be built sloping to the west with an overall slope of less than 5%. Clay to construct the pad will be removed from nearby state land under lease ML49282, this area to be covered by this permit application.

Operations at the mill site would consist ~~of crushing the ore to about one (1) inch or less in size,~~ **hauling ore** to the mill site on existing county roads where it will be crushed and stacked on the pad in lifts of about 10 feet up to a maximum height of about 30 feet, and leaching copper from the ore using a dilute solution of sulfuric acid. Note: usage of the county roads for moving the ore from the pit to the mill site has been approved by Tooele County. Potential dust problems on the haulage road will be controlled by use of water or magnesium chloride. Signage will be posted along the haulage route warning the public of the heavy truck traffic.

An evaporation pond would be constructed sufficient to contain leach solutions and also collect iron sludge from the copper precipitation operation.

Copper would be recovered by circulating the leach water through columns which contain scrap iron, making a precipitate containing about 65% copper.

A Location Map, Figure 1, shows the Cactus Mill Permit area, proposed clay borrow area, and general access to the mine site. Various annotated photographs of the Cactus Mill permit area are included as Appendix 1. The area of the clay borrow has not be disturbed previously therefore care will be taken to harvest any growth medium that may occur there. (Refer to enclosed pictures, Appendix 1)

There are no landing strips, springs, utilities, waste facilities, etc. located within the permit area.

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

1. **Mine Name:** Cactus Mill
2. Legal name of entity (or individual) for whom the permit is being requested: Desert Hawk Gold Corporation
Mailing Address: 8921 North Indian Trail Road Suite 288
City, State, Zip: Spokane, WA 99208
Phone: (509) 467 8204 Fax: (509) 468-1937
E-mail Address: rickh@odcnv.com
- Type of Business: Corporation (☒) LLC (☐) Sole Proprietorship (dba) (☐)
Partnership (☐) General ☐ or ☐ limited
Or:
Individual (☐)

Entity must be registered (and maintain registration) with the State of Utah, Division of Corporations (DOC) www.commerce.utah.gov.

Are you currently registered to do business in the State of Utah? (XX) Yes () No
Entity # 7378396-0143

If no, contact www.commerce.utah.gov to renew or apply.

Local Business License # _____ (if required)

Issued by: County _____ or City _____

Registered Utah Agent (as identified with the Utah Department of Commerce) (if individual leave blank):

Name: Ron Vance

Address: 1656 Reunion Ave. Suite 250

City, State, Zip: South Jordan, UT 84095

Phone: (801) 446-8802 Fax: (801) 446-8803

E-mail Address: ron@vancelaw.us

3. **Permanent Address:** 8921 North Indian Trail Road Suite 288
Spokane, WA 99208
Phone: (509) 467-8204 Fax: (509) 468-1937

4. Contact Person(s) *Please provide as many contacts as necessary.*

Name: Rick Havenstrite Title: President
Address: 1290 Holcomb Ave.
City, State, Zip: Reno, NV 89502
Phone: (775) 322-4621 Fax: (775) 322-6867
Emergency, Weekend, or Holiday Phone: (775) 848-5193
E-mail Address: rickh@odcnv.com

Contact person to be notified for: permitting (☒) surety (☒) Notices (☐) (please check all that apply)

5. Location of Operation:County(ies) Tooele

<u>SE</u> 1/4 of <u>SE</u> 1/4, Section: <u>35</u> Township: <u>7 S</u> Range: <u>R18W</u>
<u>NE</u> 1/4 of <u>NE</u> 1/4, Section: <u>2</u> Township: <u>8 S</u> Range: <u>R18W</u>
<u>NE</u> 1/4 of <u>NE</u> 1/4, Section: <u>36</u> Township: <u>7 S</u> Range: <u>R18W</u>

6. Ownership of the land surface (circle all that apply):

Private (Fee), Public Domain (BLM), National Forest (USFS), State of Utah (SITLA) or other:

Name: BLM Address: 2370 S 2300 W Salt Lake City, UT 84119
Name: SITLA Address: 675 E 500 S Suite 3520 SLC, UT 84102
Name: _____ Address: _____
Name: _____ Address: _____

7. Owner(s) of record of the minerals to be mined (circle all that apply):

Private (Fee), Public Domain (BLM), National Forest (USFS), State of Utah (SITLA) or other:

Name: BLM Address: 2370 S. 2300 W. Salt Lake City, UT 84119
Name: SITLA Address: 675 E. 500 S Suite 3520 SLC, UT 84102
Name: _____ Address: _____
Name: _____ Address: _____

8. BLM Lease or Project File Number(s) and/or USFS Assigned Project Number(s):BLM Claim Numbers: UMC 317839 (Cactus Millsite); UMC 359375 (GHM-1)(See Figure 3 & Appendix 2)Utah State Lease Number(s): ML 49282 Lease for Metalliferous Minerals;ML 47181 Lease for Metalliferous Minerals(See Figure 3 & Appendix 2)Name of Lessee(s): Desert Hawk Gold Corporation

9. Adjacent land owners:

Name: Linda Miller Address: 1 Main Street Gold Hill Ibapah, Utah 84034
 Name: George Robert-Shaw Address: HC 61 Box 150 Wendover, UT 84083
 Name: Ron Rainey Address: HC 61 Box 160 Wendover, UT 84093
 Name: Rod Williams Address: 1 Copper Street Goodwin, UT 84083

10. Have the land, mineral and adjacent land owners been notified in writing?

Yes XX No _____

11. Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes XX No _____.**II. Rule R647-4-105 - Maps, Drawings & Photographs****105.1 - Base Map****Base Map Checklist**

Check		Map ID
<u>x</u>	(a) Property boundaries of surface ownership of all lands which are to be affected by the mining operations.	<u>Figures 1, 2 & 3</u>
<u>x</u>	(b) Roads, buildings, water wells, or other existing surface or subsurface facilities within 500 feet of the proposed mining operations; _____	<u>Figures 4, & 5</u>
<u>x</u>	(c) Proposed route of access to the mining operations from nearest publicly maintained highway (Map scale appropriate to show access); _____	<u>Figure 1</u>
<u>x</u>	(d) Known areas which have been previously impacted by mining or exploration activities within the proposed land affected; _____	<u>Figure 4</u>
<u>x</u>	(e) Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period. _____	<u>Figure 6 & 7A</u>

105.2 - Surface Facilities MapSurface Facilities Map Checklist

- | Check | Map ID |
|---|--------|
| <u> x </u> (a) Proposed surface facilities, including but not limited to: buildings, stationary mining/processing equipment, roads, utilities, power lines , proposed drainage control structures, and the location of topsoil storage areas, tailings or processed waste facilities, and containment facilities; There are no landing strips, springs, utilities, waste facilities, etc. located within the permit area. <u>Figures 5& 6</u> | |
| <u> x </u> (b) A border clearly outlining the extent of the surface area proposed to be affected by processing operations, and the number of acres proposed to be affected; <u>(9.5 acres)</u> <u>Figure 5, 6 & 7A</u> | |
| <u> x </u> (c) The location of There are no known test borings, pits, or core holes. <u>Two water monitor wells will be used for ground water sampling</u> <u>Figure 5</u> | |

105.3 - Additional MapsReclamation Treatments Map Checklist

- | | Map ID |
|---|-----------|
| <u> x </u> (a) Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processing equipment, roads, proposed drainage improvements or reconstruction, and sediment control structures, topsoil storage areas, tailings or processed waste facilities, ponds. Reclamation treatments may include ripping, regrading, replacing soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydroseeding: _____ | Figure 7 |
| <u> x </u> (b) A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation: _____ | Figure 7 |
| _____ (c) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards: _____ | None |
| <u> x </u> (d) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 vertical. <u>None</u> | |
| <u> x </u> (e) Design Drawings Showing Final Design for Process Tank,. | Figure 5A |
| <u> x </u> (f) Design Drawing for Lower Pump Station | Figure 5B |
| <u> x </u> (g) Design Drawing for Evaporation Pond Transfer Pump Station | Figure 5C |
| <u> x </u> (h) Design Drawing—Cross-Section Operations Area | Figure 5D |

III. Rule R647-4-106 - Operation Plan

106.1 - Type of Mineral(s) to be mined: Copper, Gold, & Silver

106.2 - Type of Operation Conducted:

The operation will be located at the Cactus Mill Site and will involve an acid heap leach to test and process approximately 100,000 tons of copper/gold ore per year for two (2) years. The ore will be initially be mined from the Yellow Hammer deposit located about four (4) miles to the south. Mining at the Yellow Hammer Mine is now being conducted by Desert Hawk Gold Corporation. **under the Herat Mine Small Mine Permit S/045/023**, which is held by Desert Hawk.

The tentative schedule for this operation is:

Construction Phase	Summer 2010
Mine & Load Leach Pad	2010-2012
Complete Leach Operation	2013
Mill Ores	Through 2015
Rinse/Neutralize Ore	2016-2019 200 Days beginning 2016
Reclaim	2016-2019

The ore will be crushed on-site to a size of 1 inch or less and placed on the pad at the Cactus Mill for leaching. Prior to this placement, a 4 foot crushed ore base will be placed to establish a percolation base for transmission of leach solutions and to protect the liner during operations. The crushed ore will be placed in lifts of about 10 feet to a maximum height of about 30 feet. This ore will be leached using a dilute solution of sulfuric acid. The pregnant leach solution will be circulated through process tanks containing scrap iron to produce a precipitate containing about 65% copper. This copper precipitate will be sold and refined off site.

To insure a safe operation and avoid degrading the environment, Desert Hawk is proposing the construction of various safe guards as part of the operation. Clay will be mined nearby (See Figures 1, 2, 3, 6 & 6A) and placed beneath the entire area of the pad and evaporation pond (Figures 5 & 7). The clay will be placed in a minimum thickness of 12 inches and compacted and the entire operations area would be overlain by a continuous 60 mil HDPE plastic liner to prevent the loss of any leach solutions. The compacted clay and overlying plastic liner will be constructed beneath the entire operating area which will contain the leach pad, evaporation/surge pond or cell, precipitation tank and a concrete containment area for the leach water. **Heavy equipment will only be used over lined areas covered with the minimum 12 inches of fill.** The evaporation pond will be constructed to handle excess leach solutions and collect the iron sludge from the copper precipitation columns. The evaporation/surge pond will be ~0.5 acres in size and 8 feet deep. The capacity of the pond will be ~1.75 acre feet. Soil throughout the entire area beneath the operations area will be compacted to 95% on the Modified Proctor Scale (ASTM 1557). The leach pad will be constructed on an area that slopes toward the evaporation/surge pond. This pad (cell) will have peripheral ditches on the north and south sides to collect the pregnant solutions emanating from the material being sprayed with acid solutions. The entire operations area will be surrounded by a compacted 5' high berm of soil which will be overlain by the plastic liner. This will prevent both run-on and run-off from any storm event. The berm along the west corner of the mill site near the natural drainage will be covered with well graded, angular ~~HDPE plastic and~~ rip-rap.

A storm water channel has been designed for this area which will be sufficient to contain a 24 hour/100 year event. (See ~~Figure 9 & 10~~ Appendix 11 – Storm Water Management Plan)

Two monitor wells drilled to an ~~approximate~~ depth of 50' & 200' (locations to be determined by UDEQ) will be placed down gradient from the pad area to monitor for any leakage that may result from this operation. (See figures 5, 7 & 7A)

There is an existing well ~~about ½ mile to the northwest of the mill~~, and Cane Springs (See Figure 1) located above the pad which will be sufficient to monitor upgradient water quality. These two locations were used to document existing water quality near the site, the wells was purged for an hour before the sample was taken.

The solutions from the evaporation/surge pond will be pumped through shredded iron contained in a stainless steel ~~process~~ tank 17' wide X 20' feet long X 10' high located inside the concrete tank enclosure (Figure 5A). This process will result in the replacement of the shredded iron with copper to produce a copper precipitate. The copper precipitate will be sold or shipped off site for further processing.

An area approximately 50' X 50' in size located in front of and inside this concrete enclosure will be covered with asphalt to help catch the clean precipitated copper and also be used as a drying area for this material. Each cell will be outfitted with pumps which will return any decanted solutions to the active leach circuit.

Concentrated sulfuric acid and water tanks used to support this operation will be located inside the existing newer mill building. ~~An 8,000 gallon acid tank and an 8,000 gallon water tank will be located within a containment area inside the mill.~~ This containment is capable of holding 300% of either tank volume. Solutions from these tanks areas will be delivered to the leach pad by pipeline, the pipeline for the acid solution will be a double lined pipe to prevent any catastrophic failure in this delivery system.

The will be no overhead power supply lines at the site. Power to the process pumps will be supplied by generators located near the pumps.

Cane Springs, located southwest of the mill (Figure 1) will be used to supply water to the operation. An existing 3" PVC water supply line from the water tank at Cane Springs will feed directly into the concrete process tank. A second existing water line (3"PVC) runs from the south down the canyon and feeds directly into the old mill building. This line runs down from ~~the old Cane Springs Mine~~ (Figures 1 ~~and 2 for location of these items~~). Fuel tanks for the operation will be located as shown on Figures 4 & 5. Chemical to be used for leaching (sulfuric acid) will be stored in an 8000 gallon tank as outlined in the paragraph above. At the present time no maintenance building will be constructed on site and the administrative support will be housed in a building in the town of Gold Hill.

The crushing and ~~milling mining~~ will be completed by a contractor and any facilities required by his operation will be temporary and the responsibility for removal will be the contractor's. The surety will reflect the cost of removal of ~~all this equipment from the site should it become necessary.~~

A minimum of 6" of growth medium from the area affected by the clay borrow operation will be preserved and stockpiled for reclamation needs. Soils tests will dictate whether soil amendments will be required during reclamation (Appendix 9). Use of fertilizer to amend the soils is included in the surety calculations. **Commercial fertilizers 2 tons/acre alfalfa** will be used to amend soil because of the lack of sources of bio-solids or composted manure. An area of ~0.9 acres will be disturbed in the clay pit, soil stockpile, and an additional area of 0.1 acres of disturbance for the access road. After the required amounts of clay are removed the area will be recontoured, **if necessary** & growth medium replaced and amended. The area will then be ripped and seeded. Growth medium impacted by the construction of the access road will be utilized as a berm on the edge of road where it will be stored and available during reclamation.

A dry wash will be crossed during the construction of this road; no culvert will be placed in the drainage. If a storm event occurs during the removal of the clay, the operation will be halted until the wash dries sufficiently to allow for truck traffic.

106.3 - Estimated Acreage

Acreage listed here should match areas measured off the maps provided.

Areas of actual mining: (Clay Borrow)	<u>1.0 0.1 0.8</u>	Figure 1 & 6
Overburden/waste dumps:	_____	_____
Ore and product stockpiles:	_____	_____
Access/haul roads: (Clay Borrow)	<u>0.9 0.1</u>	Figure 6
Associated on-site processing facilities:	<u>4.6</u>	Figure 5
Tailings disposal: Clay Borrow Soil Stockpile	<u>0.1 acre</u>	
Other - Please describe: (Leach pad operational area)	<u>3.9</u>	Figure 5
Total Acreage	<u>9.5</u>	

106.4 - Nature of Material Including Waste Rock/Overburden and Estimated Tonnage

The typical annual amount of ore mined off site will be 100,000 tons (60,000 cubic yards) of oxidized granodiorite rock containing copper oxide minerals per year. Over two years, a total of 200,000 tons of ore will be mined. **No significant sulfides are known to be present at the Yellow Hammer mine. (If high sulfide ore is located, it will not be transported for processing at the Cactus Mill.)** This rock will be crushed to 1 inch or less in size and then placed on the pad. After leaching **for a six month period of time**, the spent leach material will have a pH of 2.0 to 2.5. The material will then be rinsed to return it to neutral pH **(6.5 to 8.5)** conditions. The time estimate to complete this activity is **200 days ~6 months**. There are no plans to remove this material from the pad. Clarification: The area underlain by HDPE plastic is considered the pad for the purpose of this permit application. (See Figure 5) The pad contains the process area, evaporation pond and heap. Although material from the heap may be utilized for backfill purposes within the area underlain by plastic, it will not be removed from the area underlain by HDPE plastic.

Thickness of overburden:	<u>No Overburden at Mill</u>
Thickness of mineral deposit	<u>No Mineral Deposit at Mill.</u>
Estimated annual volume of overburden:	<u>NA</u> cu. yds.
Estimated annual volume of tailings/reject materials:	<u>60,000</u> cu. yds.
Estimated annual volume of ore mined:	<u>60,000</u> cu. yds.

106.5 - Existing Soil Types, Location of Plant Growth Material

A report on the soils in the immediate area of the Cactus Mill titled "Custom Soil Resource Report for Tooele Area, Utah – Tooele, County and Parts of Box Elder, Davis and Juab Counties" is attached as Appendix 3. This report describes soils in general but includes a detail map of the Permit area at a scale of 1:12,800. The detailed map shows the area including the Cactus Mill Site to be underlain by a soil mapped as "Amtoft –Rock outcrop complex". This soil unit is further described as consisting of about 65% soil and 15% rock outcrop. The parent material is colluvium derived from limestone and/or weathered limestone. Characteristics and qualities include 1) scattered cobbles and boulders, 2) excessively drained, 3) frequency of flooding: none, 4) frequency of ponding: none, and 5) high calcium carbonate content.

It is emphasized that essentially no undisturbed soil exists at the Cactus Mill Site. There is a limited amount of disturbed and mixed growth medium that can be used for reclamation. Photos of the mill site and clay borrow area are shown in Appendix 1. A photo location and orientation map for the mill is shown on Figure 4A.

There is very little vegetation in the 0.9 acre area of the proposed clay removal. Areas where growth medium is available within the affected area is will be removed and replaced during reclamation. When a sufficient amount of clay has been removed to provide a base for the pad, the area will be recontoured, growth medium replaced, and then the area will be amended (as needed), ripped and seeded. Growth medium impacted by the construction of the access road will be utilized as a berm on the edge of the road where it will be available during reclamation. Pictures of this site are included and shown in Appendix 1.

- (a) Each soil type to be disturbed needs to be field analyzed for the following:

(b)

Clay Borrow Area

Depth of soil material (in inches)	6"
Volume (for stock piling)	Varies ~750 cu. yds.
Texture (field determination)	Silty Clay
pH (field determination)	8.0

(cross reference with item 106.6)

Cactus Mill Site

Depth of soil material in inches	6"
Volume (for stockpiling)	6900 cu. yds.
Texture (field determination)	Sandy Clay
pH (field determination)	9.7

(cross reference with item 106.6)

- (b) Where there are problem soil areas (as determined from the field examination) laboratory analysis may be necessary.
Soil samples were collected from both the clay borrow area and mill site.
Results are enclosed in this application. (See Appendix 9)

106.6 - Plan for Protecting and Re-depositing Existing Soils**Cactus Mill Site**

Thickness of soil material to be salvaged and stockpiled: _____ 6 inches

Area from which soil material can be salvaged: (show on map) _____ 4.0 acres

Volume of soil to be stockpiled: _____ 6,900 cu. yds.

(cross reference with item 106.5 (a))

Clay Borrow

Thickness of soil material to be salvaged and stockpiled: _____ 6" inches

Area from which soil material can be salvaged: (show on map) _____ 0.9 acres

Volume of soil to be stockpiled: _____ 750 cu. yds.

(Cross reference with item 106.5 (a))

The material storage would include interim seeding, and a protective berm built around the stockpile. The interim seed mix for the salvaged growth medium stockpiles will consist of a seed mix recommended by the Division. During closure, the stockpiled growth medium will be distributed over the mill site and clay borrow areas. A division approved seed mix will be applied in the late fall of the year in which the growth medium is placed.

106.7 - Existing Vegetative Communities to Establish Revegetation Success**Vegetation – VEGETATION SURVEY TO BE SUBMITTED AUGUST 1, 2010.**

The entire permit area is a mill site and where milling has taken place since the early 1900's. There is essentially no undisturbed ground cover. Very sparse vegetation is present consisting of sagebrush, rabbit brush, grasses and weeds.

- (a) Vegetation Survey - The following information needs to be completed based upon the vegetation survey:

Sampling method used _____

Number of plots or transects (10 minimum) _____

A vegetation survey will be done during this spring/summer season for both areas and results submitted to reporting agencies to be attached to this permit.

Ground Cover**Percent**

To be determined by vegetation survey performed this Spring / Summer season.

Vegetation (perennial grass, forb and shrub cover) _____

Litter _____

Rock/rock fragments _____

Bare ground _____

Revegetation Requirement _____

(70 percent of above vegetation figure) _____

Indicate the vegetation community(ies) found at the site.

To be determined by vegetation survey performed this Spring/Summer season.

List the predominant perennial species of vegetation growing in each vegetation community type.

To be determined by vegetation survey performed this Spring/Summer season.

(b) Photographs - Photographs of the area are included in Appendix 1

106.8 - Depth to Groundwater, Overburden Material & Geologic Setting

Depth to groundwater _____ ~45 _____ ft.

Ground water depth was estimated from general information. This information includes water depth in a well **about** one **half** mile to the north**west** which is 40' and the fact that Cane Springs, which is 1500' west of the site, free flows.

The surface of the Cactus Mill site consists entirely of a geologic unit mapped as alluvium which is Quaternary or Recent in age. This alluvium consists of unconsolidated silt, sand and gravel that has been deposited by intermittent streams or general erosion processes. There is no bedrock exposed on the surface on the site nor does there appear to be any bedrock exposed in the shallow excavations that have been made during construction projects. This alluvium is overlain by thin poorly-developed soils typical of the Great Basin physiographic province. (Refer to Figure 8) **The geology of the clay borrow pit consists of undifferentiated lacustrine and alluvial deposits, consisting of soft, white, calcareous clay and lacustrine silt, forming thin veneers over older alluvium and pediment surfaces. (Figure 8)**

106.9 - Location and Size of Ore and Waste Stockpiles, Tailings and Treatment Ponds, and Discharges

The copper leaching operation will be located on previously disturbed areas within the site. The area where the leach pad will be located is an area where tailings from previous operation had been placed. The pad area will encompass approximately 3.9 acres within the fenced area of the mill site.

Metallurgical tests are presently being performed to ascertain the economic feasibility of rinsing and subjecting the material on the pad to further processing. At this time any further processing of this material will not require removal **from the mill site to areas not presently underlain by the 60 mil HDPE liner.**

Once leaching operations have been completed, and all metals economically removed, the spent leach materials on the pads will be rinsed with lime and water to achieve a neutral pH **(6.5 to 8.5)** and left in place **for a period of one year. until further testing has been completed to ascertain whether any additional processing is feasible.**

Ore will be mined and hauled from the Yellow Hammer Mine, then crushed at the Cactus Mill. The crushed ore will be placed on a lined pad within the Permit area. The estimated 200,000 tons of ore, estimated to be heap leached over a 2 year period, can easily be placed on the 3.9acre pad.

The process areas of the site will be permitted as a zero discharge facility. All solutions originating from the mill site will remain within the permitted area.

After leaching has been completed the material that has been placed on the leach pad will be rinsed and neutralized. The residual solutions contained in the cell will initially have a pH of 2 and free acid (FA) of ~3gpl. In the lab it took 6 grams of lime to neutralize 3 grams of acid. To neutralize 100,000 tons of ore containing a moisture level of 8% it would require about 8000 tons of solution at 3 grams/liter FA. . It is estimated that it will take 48 tons of lime to neutralize 200,000 tons of spent leach material located on the pad. Lime can be delivered to the site from the Pilot Peak plant at a cost of about \$100/ton. Using this estimate it will cost approximately \$4800 plus pumping costs to neutralize the proposed leach cell. It is estimated the rinse procedure ~~could~~ will take 200 days up to six months to complete, surety will be provided to fund this rinsing operation for that period of time.

The heap area is extremely small – less than 4 acres. The total amount of material to be leached is only 200,000 tons. Per the acid base work submitted, the intrusive and sedimentary rocks are devoid of their own sulfur, pH basic, and will neutralize all of the acid, without added lime on their own over a period of time. This is based on our submitted water quality (7.15-7.5 pH) of the natural spring which will be applied to the leach pad which has a hardness of 2300 mg/l as CaCO₃ and bi-carbonate of 120 mg/l. Though this water alone would also neutralize the leached ore on its own given time, we intend to add lime to accelerate the process.

By design the pad acts as a vat, where water will not need to be continuously pumped to achieve neutralization. Lime can be sprinkled on the top of the heap and rinse water periodically applied, even once a month would be adequate. In the U.S. ores of this type have proven to neutralize themselves over time with no added chemicals—even with pH 7 water (Anaconda-Yerington, Nevada). Calcium feldspars are slow to break down during leaching but provide a continuous ability to buffer the leach solutions after the fact.

IV Rule R647-4-107 Operation Practices

Public Safety and Welfare

Desert Hawk Gold Corporation will minimize hazards to the public safety and welfare during operations. This will include such measures as:

- All trash, scrap metal, wood, and extraneous debris will be temporarily stored in a dumpster or similar container at a designated location to be removed to a permitted dump site.
- All waste oils and fluids will be recycled or removed from the site. Spill kits will be placed in strategic locations on site to treat fluid spills.

- This operation will not utilize cyanide under this plan. Cyanide barrels located at the mill site are empty drums which will be triple rinsed and disposed at an off-site location
- Warning signs will be posted in locations where public access to operations is readily available, including at the points of exit/entry from the County road to the processing facility. The mine site is also surrounded by a wire fence.

Erosion Control

Berms and peripheral conveyances will be established to prevent run-on waters from external sources and an evaporation/surge pond will be established in a downgradient area within the pad to prevent flows as a result of precipitation events from leaving the pad area. **A 100 year 24 hour storm event will produce 1.82 inches of rainfall.** Sediment ponds will contain any run-off within the permit area outside the pad. (See Appendix 11 – Storm Water Management Plan) These sediment ponds will each be about 8 feet deep. The site is designed as a zero discharge facility.

Seepage Monitoring

Two monitor wells **will be** drilled to a depth of 50' & **200'** (locations to be determined by UDEQ), approximate locations shown on Figure 5, **7 & 7A**. These wells will be checked daily for fluids as a part of normal operations, monitoring and reporting schedules are normally dictated by DEQ. The plan will be updated with this information when received. Geology of the area of the monitor wells will be reported when these wells are installed.

Deleterious or Acid Forming Materials

All chemicals to be used during the operation of this facility will be properly stored within a lined and bermed area which will be capable of retaining 110% of the fluid capacity of the largest container placed in this area. MSDS Sheets of chemicals and any hazardous materials will be obtained and kept within operations area. **Copies of General information regarding** the MSDS sheets are included in Appendix 7.

Soils

A minimum depth of 6" of suitable growth material will be salvaged from both the mill site and clay borrow and stockpiled in a stable condition so as to be available for reclamation. The material storage would include interim seeding, and a protective berm built around the stockpile. The interim seed mix for the salvaged topsoil stockpiles will consist of a seed mix recommended by the Division. Seed will be applied in the late fall of the year in which the growth medium is placed.

Concurrent Reclamation

Desert Hawk will conduct concurrent reclamation where practical. All areas within the site have been utilized intermittently for various milling and processing operations since the early 1900's and have been the site of equipment and trash disposal, Desert Hawk has already completed the removal of this debris and a performed preliminary clean-up of the site.

Where feasible, areas not required to support the proposed operation will be ripped and seeded. Areas disturbed under this notice that are not routinely or currently used will be kept in a safe, environmentally stable condition. **Interim reseeding will be performed if needed to assure displacement of noxious weeds.** Noxious weeds will be monitored for, and aggressively treated if present on these disturbed sites.

V. Rule R647-4-108 - Hole Plugging Requirements

Currently, Desert Hawk has no plans to drill any holes on the site, with the exception of required monitor wells. **The monitor wells will remain after general closure of the site in accordance with Utah Department of Environmental Quality recommendations for continuing testing. Well casings will then be cut off at grade and capped. This will enable future sampling should it become necessary.** Should additional drilling become necessary, Desert Hawk will plug all drill holes as required by DOGM rule R647-4-108.

VI. Rule R647-4-109 - Impact Statement

109.1 - Surface and Groundwater Systems

The only surface water in the area is Cane Springs, which will be the source of water for the Cactus Mill. Water samples collected from Cane Springs (WS-1) and a well (WS-2) located northwest of the mill site show that water quality in this area is very poor **and is Class III based on TDS and other contaminants.** Water quality data from water collected from these two sources is included **in the plan** in Appendix 4. **Ground water samples will be collected from two monitor wells prior to beginning leaching operations. Additional samples from the monitor wells will be collected twice annually throughout the life of the project and for three years after closure. The DEQ will determine the final sampling schedule and testing parameters.** The site has been designed as a zero discharge facility; no process or precipitation event waters will leave the **site pad**. All waters emanating from operations and precipitation events will be directed to the evaporation/surge or settlement ponds where it will be consumed as a part of the operation solutions or evaporated. (See Appendix 11 - Storm Water Management Plan)

The clay borrow area and access road will be regraded sufficiently to preclude water retention, growth medium replaced then amended and the area will be ripped and seeded. This clay borrow is located a sufficient distance from any drainages to preclude waters from any event from impacting the area. The **dry** drainage impacted by the construction of the access road will be restored.

109.2 - Wildlife Habitat and Endangered Species

Due to prior surface disturbances, resulting in the sparse vegetation in the mill area, no wildlife habitat is expected to be lost as a result of this leaching operation. In addition the entire permit area is surrounded by a wire fence. Any wildlife mortalities at

the site will be reported as required by Utah DWR.

The area around the mill and clay borrow does see some use by an occasional antelope and mule deer, but no other big game species have been observed in the area

The site is also located close to the settlement of Gold Hill.

Other wildlife species that occur in the area (BLM 1998) include golden eagle, bald eagle, ferruginous hawk, kit fox, Great Basin rattlesnake, black tail jackrabbit, and cotton tail rabbit, and other small mammals and birds.

Federally listed species that may have the potential to occur in Tooele County include:

Bald Eagle	(<i>Haliaeetus leucocephalus</i>)	Threatened
California Condor	(<i>Gymnogyps californicus</i>)	Endangered/Experiment - Non-Essential
Utah prairie dog	(<i>Cynomys parvidens</i>)	Threatened
Western yellow-billed cuckoo	(<i>Coccyzus americanus occidentalis</i>)	Candidate

Bald eagles typically nest in large trees, primarily cottonwoods and conifers, although they have also been known to nest on projections or ledges of cliff faces. There is no nesting or roosting habitat on or near the property. Bald eagles are uncommon to rare visitors in the Gold Hill area and may occasionally pass through while hunting. Bald eagles would not be impacted by the mining operations in this area.

The California condor is designated as an experimental, non-essential population in this part of Utah. As part of a captive breeding and reintroduction program, California condors were released into the wild at the Vermillion Cliffs in northern Arizona near the Grand Canyon in 1997. Condors from this release site have subsequently been observed in various locations in southern Utah, including in and around Zion National Park. These sightings appear to be isolated incidents, and the birds appear to eventually return to the Vermillion Cliffs. These individuals are part of a non-essential experimental population and are not subject to the same level of protection as naturally occurring populations of listed species. This species is not known to nest or roost near the permit area, mining activities would not impact this species.

The Utah prairie dog is the westernmost member of the genus *Cynomys*. The species range is limited to the southwestern quarter of Utah. Utah prairie dogs have not been observed in the project area and would not appear to be impacted by mining activities in the operations area.

The western yellow-billed cuckoo is a bird that occurs in cottonwood-willow forests in the west. Populations in Utah have been historically noted to be uncommon to rare. Due to the lack of vegetation or riverine habitats in the operations area, the bird would

not be expected to appear and therefore would not be impacted by mining operations in the area.

109.3 - Existing Soil and Plant Resources

All of the area to be utilized has been previously disturbed. Milling on this site began as early as 1919, and there are significant areas that are devoid of vegetation or are dominated by invader species of plants.

109.4 - Slope Stability, Erosion Control, Air Quality, Public Health & Safety

This site is located in a remote area where there are minimal population concentrations. Signage and fencing of the process facility will be used to discourage entry to the Cactus Mill site.

The area of the mill site where the leach pad and operations area are planned is located in an area of the site where the ground is relatively flat. The natural slope of the ground will facilitate the drainage of solutions from the heap leach pad to the evaporation/surge pond.

Peripheral ditches will be established, where necessary, to prevent any run-on water resulting from precipitation events from entering the process area. Material on the leach pad will be placed at a 3h/1v slope or flatter therefore no final regrading will be necessary. Mining and crushing at the site will be performed by a contractor. The State requires that the Air Quality permit be a part of the crushing operation therefore a separate permit for this operation will not be necessary. **No later than 30 days before crushing begins, Desert Hawk will provide the Division a copy of the appropriate air quality permit.** Water will be applied to mine haulage roads during operations to eliminate dust. Water for this purpose will be obtained from onsite water sources. Operator may choose to control dust with Magnesium Chloride in addition to water.

VII. Rule R647-4-110 - RECLAMATION PLAN

110.1 - Current Land Use and Post-Mining Land Use

Current or premining land use(s) [other than mining]: Wildlife Habitat & Grazing

List future post-mine land-use(s) proposed: Wildlife Habitat & Grazing

110.2 - Reclamation of Roads, Highwalls, Slopes, Leach Pads, Dumps etc..

*******6/1/10 – The text in this section has not changed, except in format to coincide with actual reclamation process*******

All buildings will be demolished and removed from the site. Any materials removed from the site will be tested and rinsed (if necessary) before removal. Wheels will be placed on the trailers and the trailers will be removed from the site. Conexes will be hauled to Kiewit site or to Gold Hill. The concrete containment structure will be rinsed (if needed), demolished and removed from the site.

The ore storage bin is a three sided concrete structure with four foot walls. This structure will be thoroughly rinsed, demolished and removed from the site. Another 20'x20'x8' three sided concrete structure will be also be demolished and removed from the site after testing. If testing indicates that rinsing of this material is necessary, it will be thoroughly rinsed before removal. All material that requires rinsing will be placed on the HDPE lined pad area where solutions from this operation will report to the evaporation/surge pond. Miscellaneous debris and scrap metal will be rinsed (if necessary) then removed from the site.

All areas within the permit area that have been impacted by this operation will be ripped to remove compaction, growth medium replaced amendments applied and the area seeded. The fence surrounding the site will be left in place to assure the success of the revegetation effort. The evaporation/surge and sediment ponds will be the only impoundments that will result from this operation. Upon closure these features will be backfilled sufficiently to assure that the area will not retain surface water and the areas will be seeded.

The berm established along the natural drainage located on the west side of the site will be raised and reinforced to assure that it will continue to contain flows from any future precipitation events upgradient. The peripheral ditch is a part of the natural drainage system in the area so no additional work is contemplated in this area. All roads that were constructed as a part of this operation will be ripped to remove compaction and seeded.

If vegetation can be established with some amendment, the pad area will be ripped, amended, and seeded. Revegetation efforts will be monitored for a minimum of three years and revegetation efforts will be repeated in areas where vegetation will not meet release criteria. The surety amount for the site contains sufficient bonding for this contingency.

The present plan is to only utilize the area where clay for the pad area is mined for initial pad construction. Therefore after mining the area will be reclaimed in the fall by recontouring, as necessary & growth medium replaced, ripped and seeded. Surface areas of the clay pit have been tested prior to any removal efforts to investigate the potential for this material to be used as a growth material. The plan is to harvest a minimum of 6" of cover material from the area affected by the clay borrow operation. Soils tests will dictate whether soil amendments will be required during reclamation. The surety presently contains sufficient surety to amend the growth medium should it become necessary. Photos of this clay removal site included as a part of Appendix 1. Upon closure roads which did not exist prior to this operation will be ripped to remove compaction, amended (if necessary) and seeded.

Tests are presently being performed to ascertain the economic feasibility of rinsing and subjecting the material on the pad to further processing. Any further processing

of this material will not require removal to areas not presently underlain by the 60 mil HDPE and compacted clay liner.

After leaching has been completed the material that has been placed on the leach pad will be rinsed and neutralized. The residual solutions contained in the cell will have a pH of 2 and free acid (FA) of ~3 gpl. In the lab it took 6 grams of lime to neutralize 3 grams of acid. To neutralize 100,000 tons of ore containing a moisture level of 8% it would require about 8000 tons of solution at 3 grams/liter FA. It is estimated that it will take 48 tons of lime to neutralize the 200,000 tons located in the cell. Lime can be delivered to the site from the Pilot Peak plant at a cost of about \$100/ton. Using this estimate it will cost approximately \$9600 plus pumping costs to neutralize the proposed leach cell. It is estimated the rinse procedure will take about 200 days to complete. Surety will be provided to fund this rinsing operation for that period of time. Process solutions that remain after the pad is neutralized will be evaporated; no process fluids will be removed from the site.

Once leaching operations have been completed and all metals that can be economically removed, the materials on the pads will be rinsed to dictated water quality standards, a pH of 6.5 to 8.5, and left in place. Testing will be performed to ascertain whether the materials on the pads will support vegetation. Testing of pad material prior to the leaching operation will not be done as the heap material will be capped with a 6" cap of growth medium. The heap leach pads and other impacted sites will be graded and contoured (if necessary) with final slopes of 3H:1V or less. Sufficient room will be left at the toe of the leach pad slopes to grade any areas which exceed that final slope. The evaporation/surge pond will be backfilled sufficiently where the area will not retain water. Any residual sludge that may occurs during evaporation will be sampled and determined non-polluting before the puncturing the liner and backfilling operations proceed. Once testing has confirmed that vegetation can be established with some amendment, the pad area will be capped with a 6" growth medium cover, ripped on contour, amended, and seeded.

When the rinsing operation has been completed, the evaporation/surge pond will be backfilled with rinsed and neutralized material from the leach cell. The pond will be perforated and back-filled sufficiently to assure that the area will not retain surface water. Any residual sludge that may occur during g evaporation will be sampled and determined non-polluting before the backfilling operation proceeds The present plan is to only utilize the area where clays for the pad area is mined for initial pad construction. Therefore, after mining the area will be reclaimed in the fall by recontouring, as necessary & growth medium replaced, ripped and seeded.

110.3 - Surface Facilities to be Left

All buildings and support facilities will be demolished and debris ~~either will be removed from the site, or buried on-site~~. Any debris contaminated as a result of the operation will be thoroughly rinsed before disposal. Solutions that result from the rinsing operations will be placed in the evaporation/surge pond.

110.4 - Treatment, Location and Disposition of Deleterious Materials

All deleterious materials left on site at the time of closure will be properly disposed of at an off site disposal area. On site materials that are exposed to chemical solutions will be rinsed before disposal. Rinse solutions will be placed in the evaporation/surge pond.

110.5 - Revegetation Planting Program and Topsoil Redistribution

a) Plant Growth Medium Replacement

All regraded surfaces of the process facility, clay borrow area and access roads, not needed to provide future access to the site, will be covered with growth medium, reseeded and reclaimed. Prior to placement, these surfaces will be ripped or scarified, depending upon their condition, after regrading, to provide a roughened surface to receive the growth medium and to enable root penetration. Soil will be spread to a depth sufficient (6") to facilitate revegetation. Soil testing will be performed prior to placement to ascertain whether amendments will be needed to be added prior to seeding. ~~Amendments could include bio-solids, manure or alfalfa. Surety includes cost of 2 tons/acre alfalfa, but funds may be used for any of the other types of organic amendments.~~ Equipment used for this task includes a dozer, loader and trucks.

b) Seeding Method

Areas to be seeded will be ripped to a minimum depth of 12 inches with a dozer. Broadcast seeding will be done on all surfaces scheduled for revegetation. Revegetation work, including both seedbed preparation and seed application will take place in the late fall season and seed would be spread immediately following seedbed preparation. Access roads will be ripped with a dozer to a minimum depth of 24 inches to remove compaction then broadcast seeded. Areas within the plant site will be ripped to a minimum depth of 12 inches prior to replacement of growth medium and seeded.

c) Seed Bed Preparation

Areas to be seeded within the plant site will be ripped to a minimum depth of 12 inches by a dozer prior to seeding. Access roads not required for future access will be ripped to a depth of 24 inches to remove compaction and seeded. Each area will receive all available growth medium before seeding.

d) Seed Mixture - List the species to be seeded:

<u>Species Name</u>	<u>Common Name</u>	<u>Seeding Rate (lbs Pure Live Seed/Acre)</u>
	Intermediate wheatgrass	1.0
Dactylis glomerata	'Piute' orchard grass	0.5
Elymus cinereus	Basin wildrye	2.0
Oryzopsis hymenoides	Indian ricegrass	2.0
Penstemon palmeri	Palmer penstemon	0.5
Kochia prostrata	Forage Kochia	0.5
Chrysothamnus nauseosus	Rubber rabbitbrush	0.5
	Small burnett	1.0
	Lewis blue flax	1.0
Atriplex canescens	Four wind salt brush	1.0
Artemisia tridentata	Wyoming big sagebrush	0.1
	Total lbs/acre	10.1

e) Seeding Method

Broadcast seeding will be the method of placement of the seed mixture.

f) Fertilization

At the present time the use of fertilizer is not anticipated. Should soil testing dictate the use of amendments they will be spread over ripped areas prior to seeding. ~~Soil amendment~~ The cost of amending the growth medium with 2 tons/acre alfalfa hay has been included in the surety estimate.

VIII. Rule R647-4-112 VARIANCE

No variances are requested.

IX. Rule R647-4-113 - SURETY

The surety calculation is included in Appendix 8 of this application. ~~No surety funds shall be released until the heap has been neutralized and has a pH of 6.5 to 8.5 for a period of one year.~~

- X. PERMIT FEE [Mined Land Reclamation Act 40-8-7(i)]**
Permit fee of \$500 included with this submission.

XI. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct. (Note: This form must be signed by the owner or officer of the company/corporation who is authorized to bind the company/corporation).

Signature of Permittee / Operator/Applicant: _____

Name (typed or print): _____

Title/Position (if applicable): _____

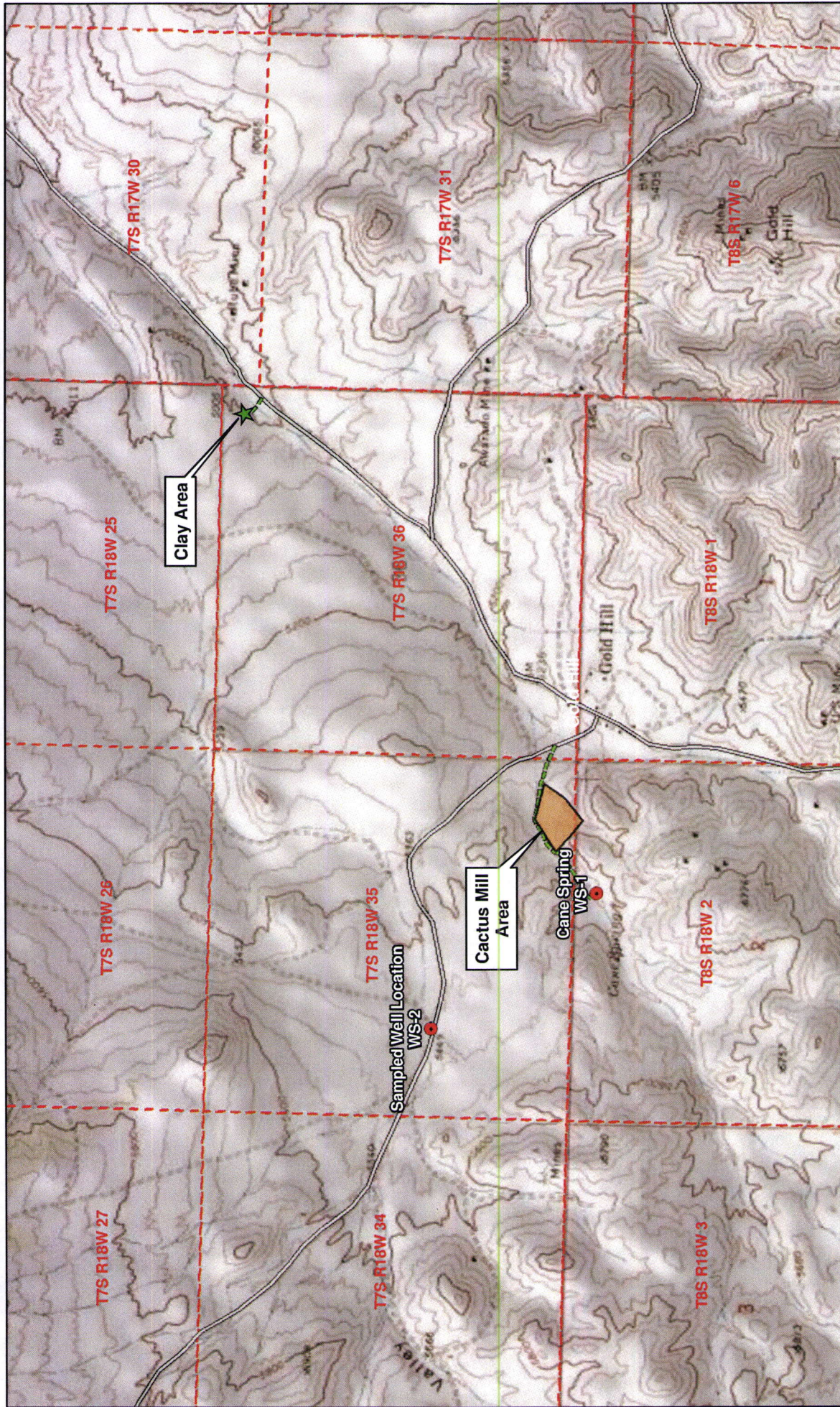
Date: _____

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: () Yes (XX) No



Base Map: Gold Hill, Utah. USGS Quadrangle 7.5 series, 1973.

DESERT HAWK GOLD CORP.

M/045/049

FIGURE 1

LOCATION MAP

Tooele County, Utah

Date: 6/1/2010 DHGC Figure L_612010

NORTH AMERICAN EXPLORATION

447 N 300 W, Suite 3

Kaysville, UT 84037

801-546-6453








0 1,000 2,000
1 inch = 2,000 feet

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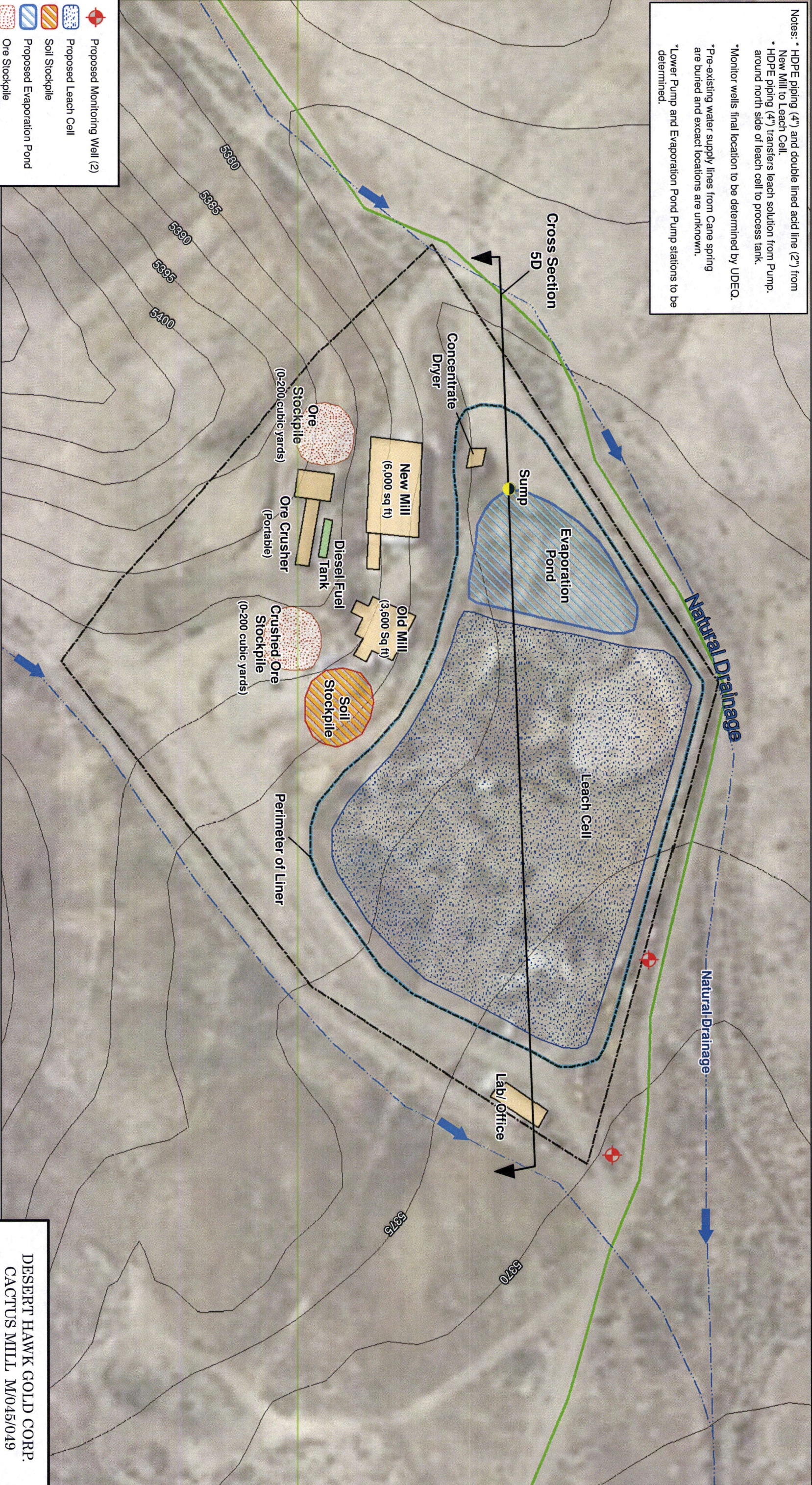
JUN 09 2010

DIV. OF OIL, GAS & MINING

-  Cactus Mill Location (8.5ac)
-  County Maintained Road
-  Operator Maintained Road
-  Spring / Well Location
-  Clay Site Location (1.0 ac)

Notes: * HDPE piping (4") and double lined acid line (2") from New Mill to Leach Cell.
* HDPE piping (4") transfers leach solution from Pump around north side of leach cell to process tank.
* Monitor wells final location to be determined by UDEQ.
* Pre-existing water supply lines from Cane spring are buried and exact locations are unknown.
* Lower Pump and Evaporation Pond Pump stations to be determined.

- Proposed Monitoring Well (2)
- Proposed Leach Cell
- Soil Stockpile
- Proposed Evaporation Pond
- Ore Stockpile
- Proposed Perimeter of Liner
- Building / Structure
- Tank
- Fence
- Drainage
- Roads

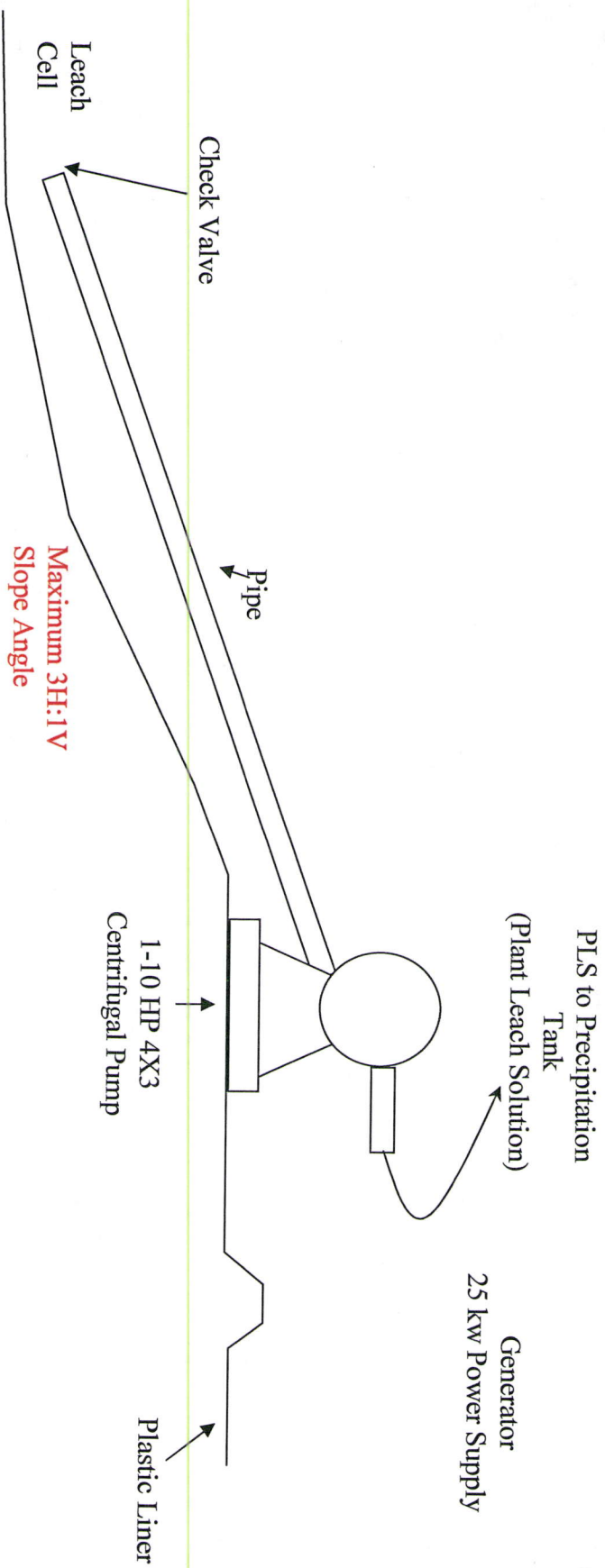


Base Map: Microsoft Virtual Earth Aerial.

DESERT HAWK GOLD CORP.
CACTUS MILL M/045/049
FIGURE 5
PROPOSED SURFACE FACILITIES
Tooele County, Utah

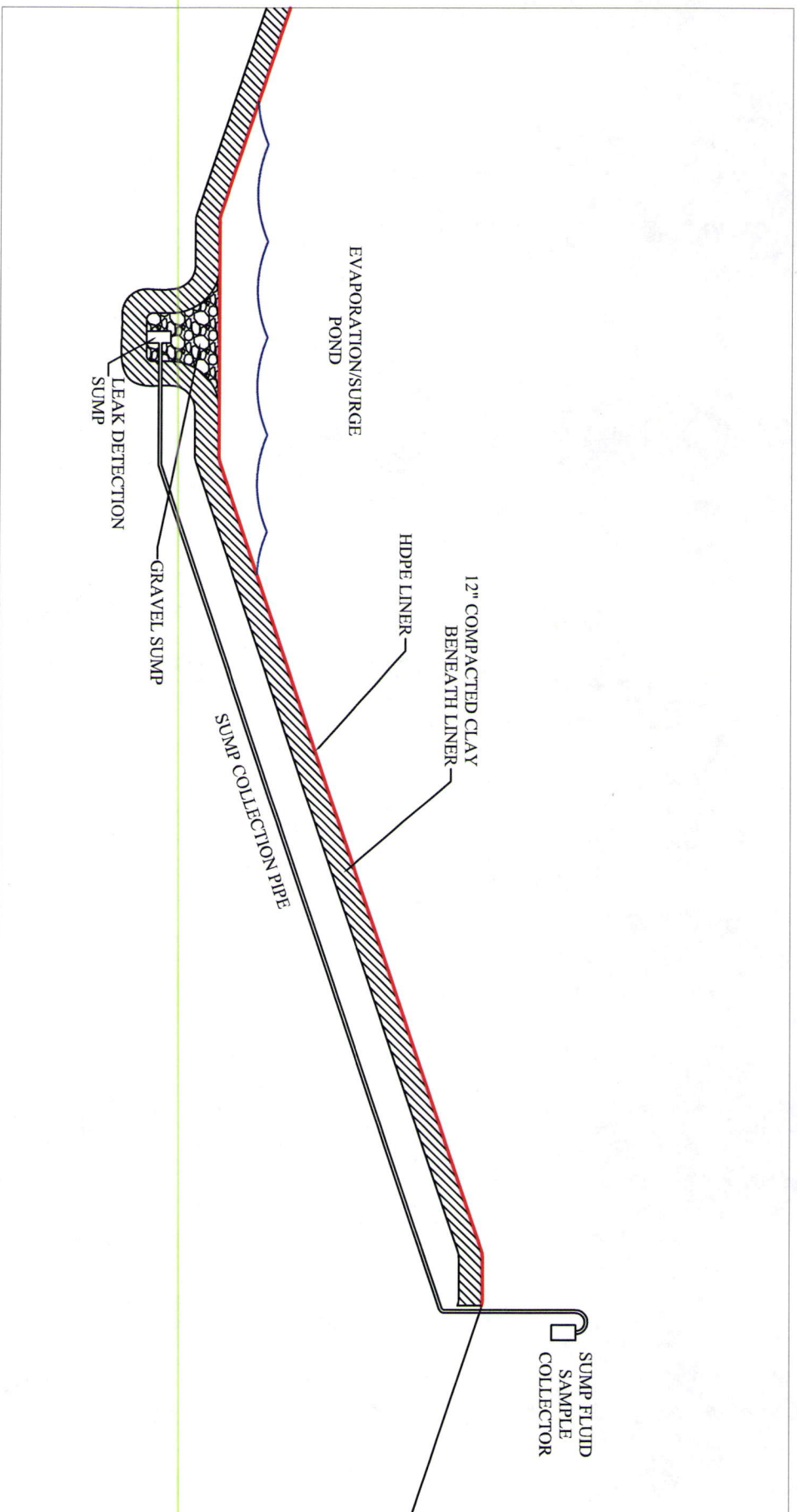
Date: 6/8/2010 DHGC FIGURE 5_682010

NORTH AMERICAN EXPLORATION
447 N 300 W, Suite 3
Kayville, UT 84037
801-546-6453

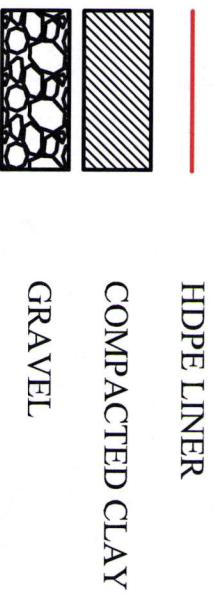


DESERT HAWK GOLD
CACTUS MILL
LOWER PUMP STATION
DETAIL B
September, 2009

Figure 5B



LEGEND



DESERT HAWK GOLD CORP.
CACTUS MILL M/045/049
FIGURE 5C
LEAK DETECTION SUMP

Tooele County, Utah

Date: 6/3/2010

DHGC_FIGURE 5C.DWG

NORTH AMERICAN EXPLORATION

447 N 300 W, SUITE 3
 KAYSVILLE, UT 84037
 801-544-3421

~ Looking South ~

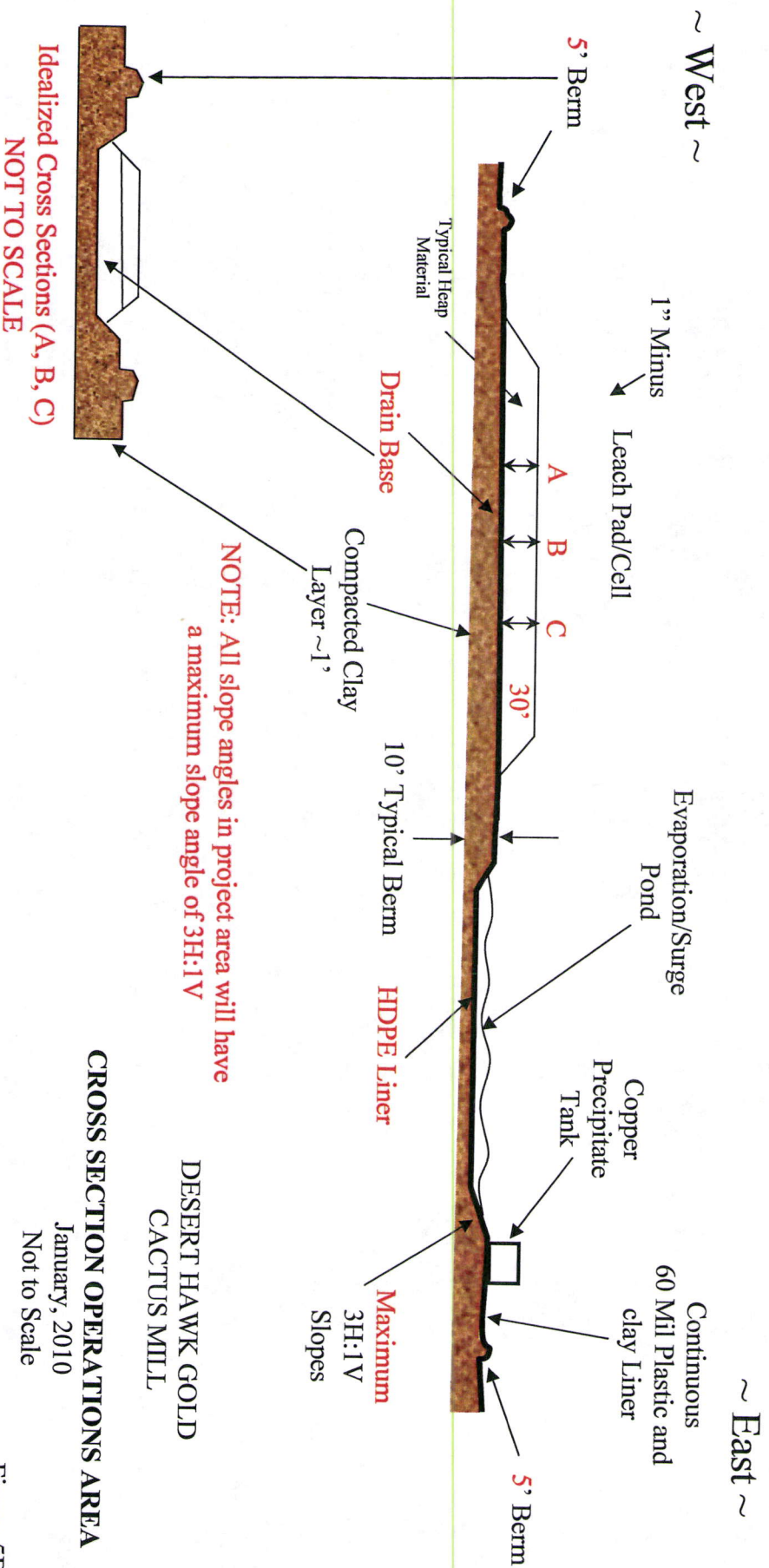
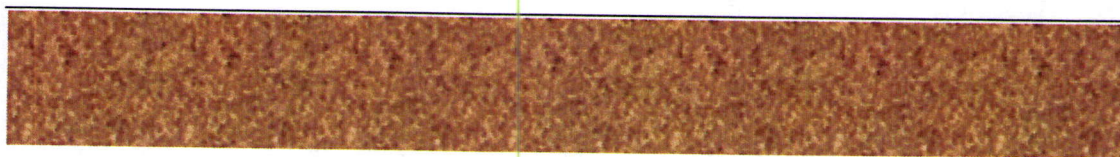
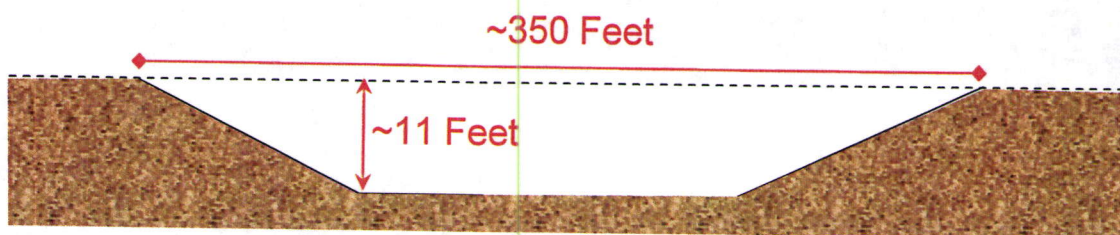


Figure 5D

~350 Feet
B B'

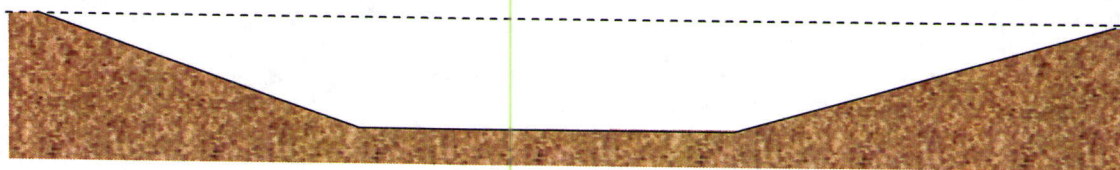


Pre Mining Contour



Maximum Slope Angle 3H: 1V

Mining Contour

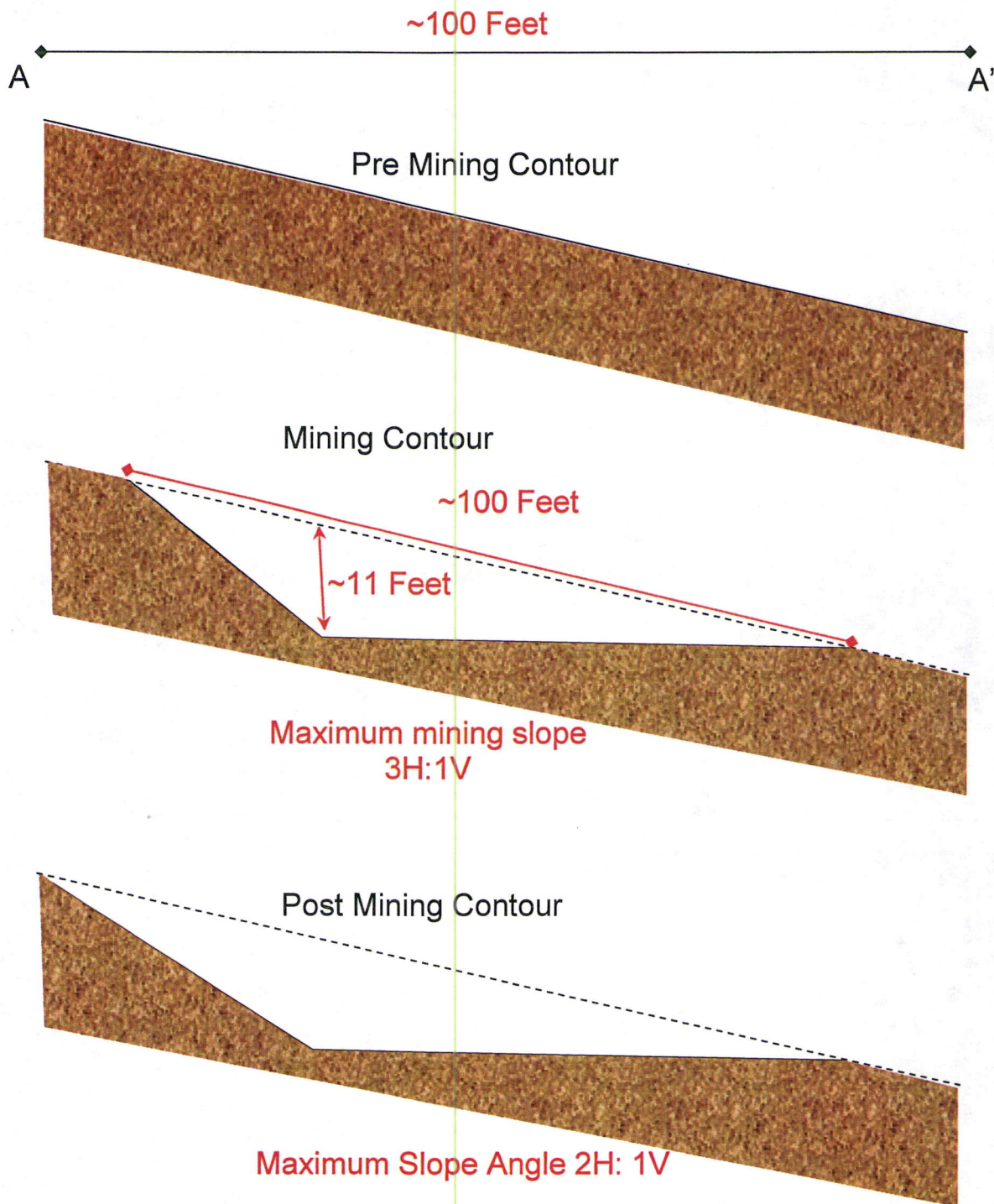


Maximum Slope Angle 2H: 1V

Post Mining Contour

NOT TO SCALE
Drawing used to demonstrate conceptual
reclamation design

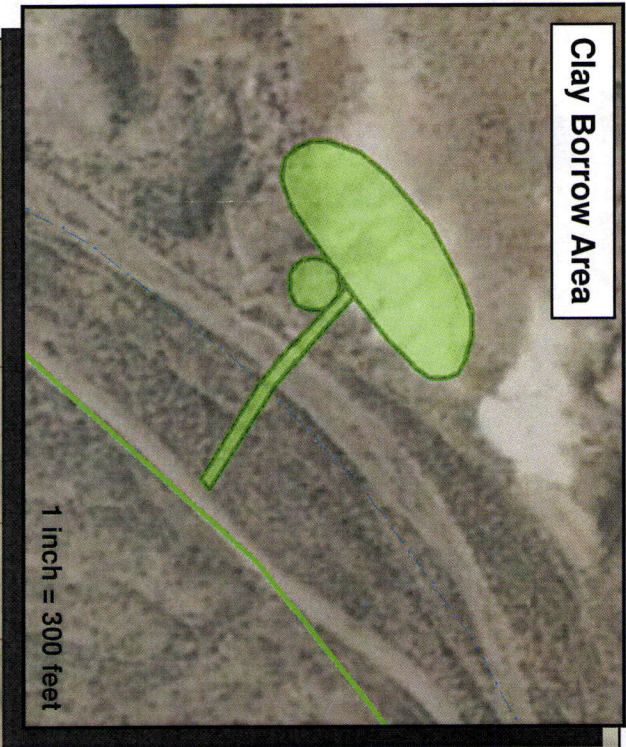
Desert Hawk Gold Corp.
M/045/049
Figure 6B
Cross Section Clay Mine Area
SW to NE
Not to Scale
January, 2010



NOT TO SCALE
Drawing used to demonstrate conceptual
reclamation design

Desert Hawk Gold Corp.
M/045/049
Figure 6C
Cross Section Clay Mine Area
NW to SE
Not to Scale
January, 2010

Clay Borrow Area



Notes:
* Slope on pad <3H:1V
* Slope outside of pad <2H:1V
* Chemicals and all hazardous waste will be removed.
* All equipment and scrap will be removed.
* All cement structures will be demolished.
* Monitor wells final location to be determined by UDEQ.

- Pad / Liner Area (3.9 acres)
- Evaporation Pond - Fill regrade and seed.
- Leach Pad - Neutralize, rip, amend and seed.
- Mill Site (4.6 acres, area not under pad)
- Clay Borrow Area (1.0 acres)
- Regrade to natural contour with less than 2H:1V slope, Contour rip to 12", roads to 24" and seed.
- Monitor Well Locations

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JUN 09 2010

DIV. OF OIL, GAS & MINING

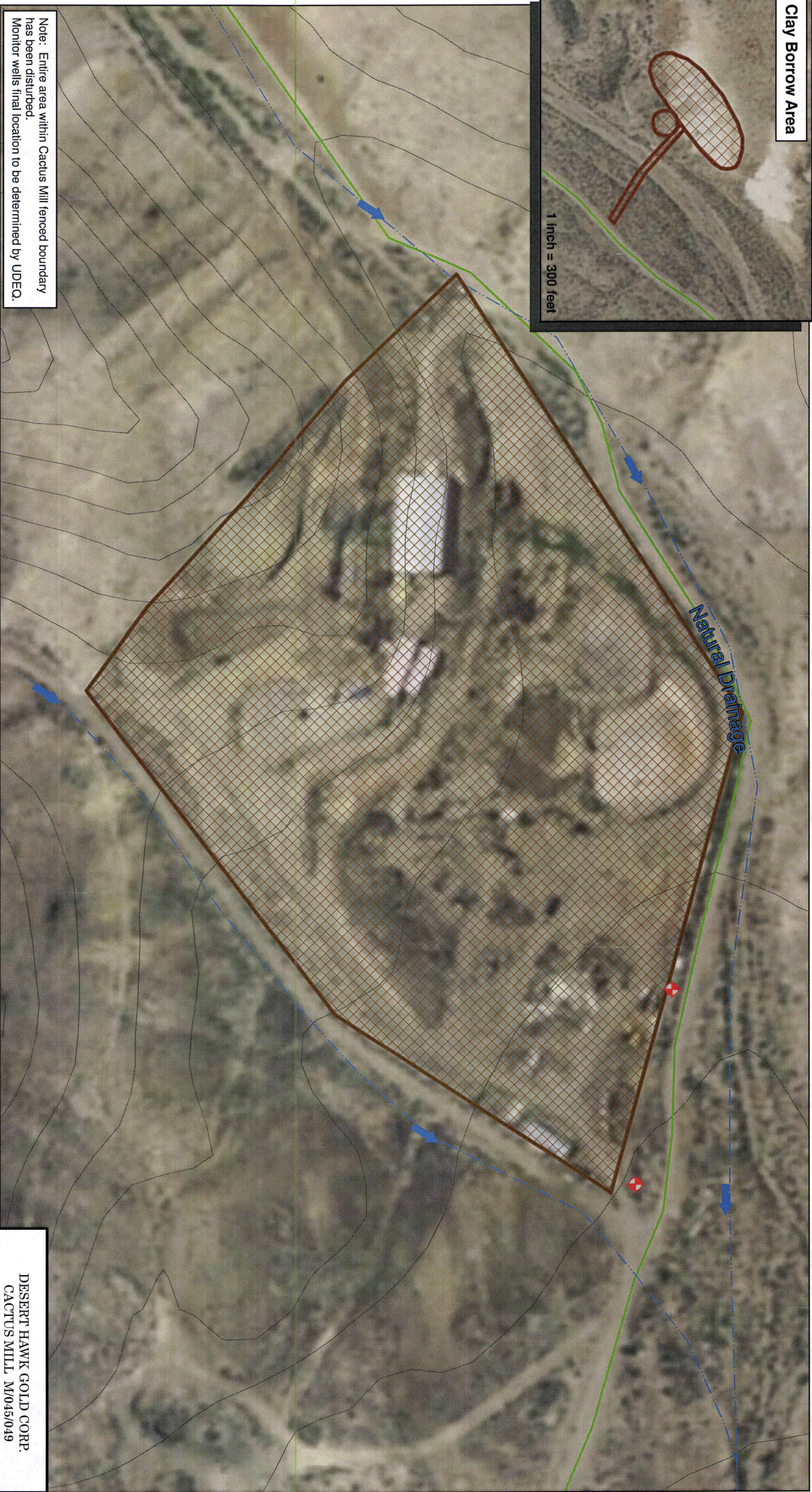
Base Map: Microsoft Virtual Earth Aerial.

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1 inch = 100 feet

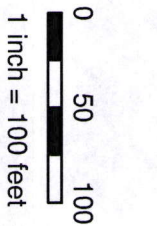


DESERT HAWK GOLD CORP. CACTUS MILL M/045/049 FIGURE 7 RECLAMATION TREATMENTS Tooele County, Utah	
Date: 6/8/2010	DHGC_FIGURE 7_682010
NORTH AMERICAN EXPLORATION 447 N 300 W, Suite 3 Kayville, UT 84037 801-546-6453	

Clay Borrow Area



Base Map: Microsoft Virtual Earth Aerial



DESERT HAWK GOLD CORP. CACTUS MILL M/045/049 FIGURE 7A EXTENT OF DISTURBANCE	
Tooele County, Utah	
Date: 6/8/2010	DHGC FIGURE 7A.682010
NORTH AMERICAN EXPLORATION 447 N 300 W, Suite 3 Kayville, UT 84037 801-546-6453	

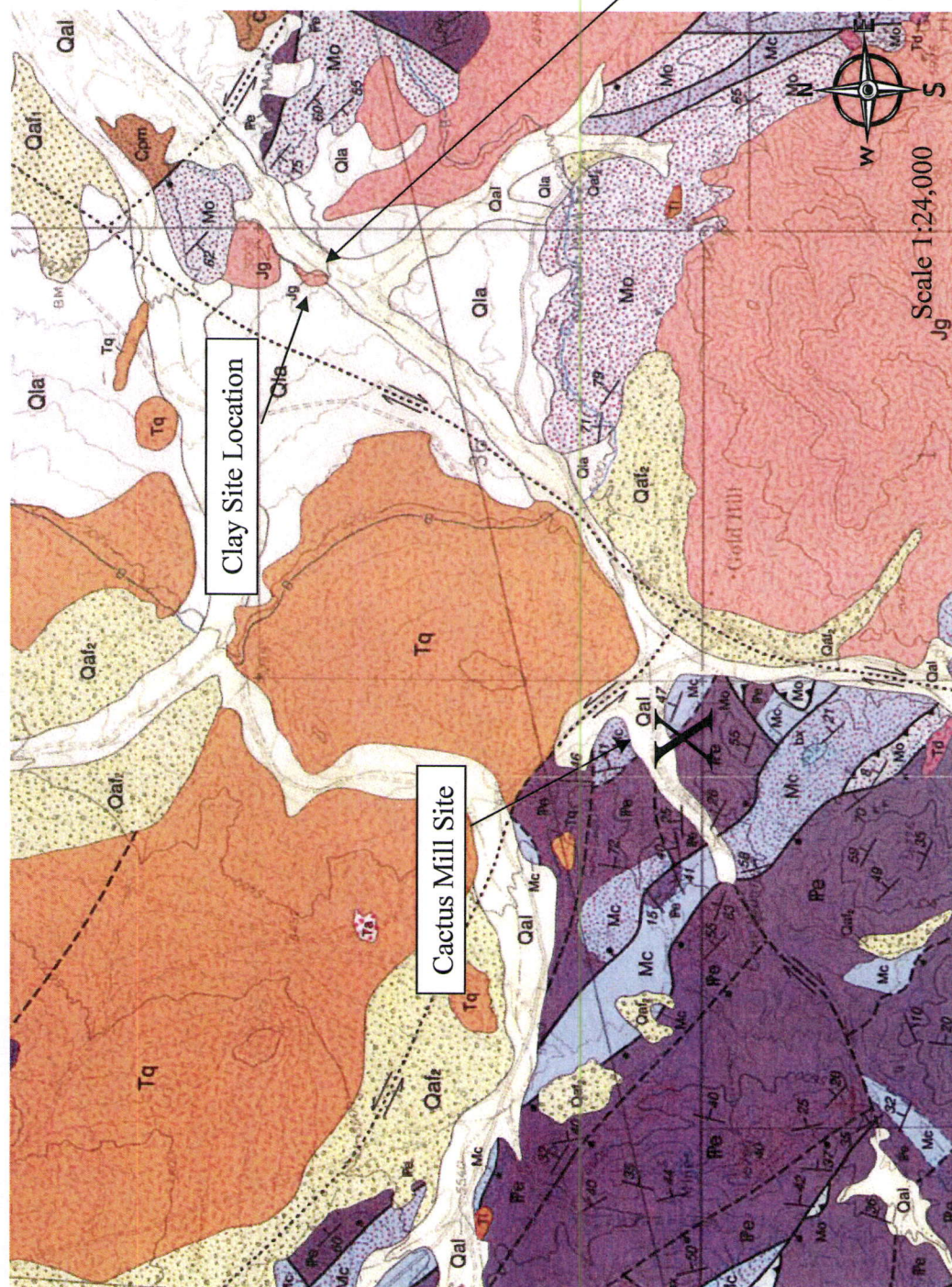
[illegible]

Plate 1
Utah Geological Survey Map 140
Geologic Map of the Gold Hill Quadrangle
By: James P. Robinson 1993

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Figure 8

APPENDIX 5

DESERT HAWK
GOLD CORPORATION

CACTUS MILL
LARGE MINE PERMIT
Tooele, County, Utah

**ACID BASE POTENTIAL FOR
YELLOW HAMMER AND KIEWIT ORES**

SP086465

FINAL REPORT

CLIENT : DESERT HAWK GOLD CORP.
PROJECT : ELTRA C&S
REFERENCE : KIEWIT, YELLOW HAMMER
REPORTED : 19-Aug-2009

TOTAL Roast 650C
Dry Wt Carbon Carbon
Weight Eltra Eltra
0.01 0.01 0.01
lbs % %

SAMPLES

KIEWIT		4.14	1.85	0.05
YELLOW HAMMER		3.96	0.30	-0.01
AAL08 Standard			0.66	0.02
BLANK			0.01	-0.01

	Carbonate Carbon
KIEWIT	1.61%
YELLOW HAMMER	0.28%

Analysis done on Eltra CS800 inductively heated instrument using high range and low range cells for
PDF of equipment attached.

Carbonate Carbon is Total Carbon-HCl Leach Carbon

Sulfide Sulfur is HCl leach Sulfur minus HNO3 leach Sulfur

Roast analyses were done to confirm acid leach data

HCl Leach	HNO3 Leach		TOTAL	Roast 650C	HCl Leach	HNO3 Leach
Carbon	Carbon		Sulfur	Sulfur	Sulfur	Sulfur
Eltra	Eltra		Eltra	Eltra	Eltra	Eltra
0.01	0.01		0.01	0.01	0.01	0.01
%	%		%	%	%	%

0.24	0.25		0.02	0.02	0.01	0.01
0.02	0.03		0.01	0.01	-0.01	0.01
0.04	0.04		1.19	0.52	0.73	0.49
-0.01	-0.01		0.01	-0.01	-0.01	-0.01

Sulfide Sulfur

0.01%

0.01%

or C and S detection

Chris Ioannakis

From: George Burke [George.burke@aallabs.com]
Sent: Thursday, February 25, 2010 6:43 PM
To: Rickh@odcnv.com
Cc: aallabs@nvbell.net
Subject: Acid Base Interpretation
Attachments: CS800.pdf; SP086465interpret.xls; E1915.dabq6039.pdf

Hi Rick,

I have attached the report with calculations and classification of these 2 samples.

I have a PDF of the equipment used for the analyses if needed.

I have attached the ASTM standard E 1915-09 that was used in the calculations. This standard is not a free to be distributed download as ASTM wants \$55 per download so please use it as backup for this case only.

George Burke

B.Sc.(HONS) U.W.A. 1975 Physical, Inorganic & Organic Chemistry

PRESIDENT

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Note:

6/7/2010

The copper ore will be mined at the Yellow Hammer Mine and trucked to the Cactus Mill site to be heap leached and processed. The Yellow Hammer copper deposit consists of one large deposit and two small satellite deposits. The sample analyzed was a 200-pound bulk sample that was collected as a composite of the three deposits. The rock is a fractured granodiorite containing copper oxide minerals.

This sample was analyzed by American Assay Laboratory in Reno, Nevada as per ASTM E 1915-09 to report carbon and sulfur and acid-base characteristics. The sulfide sulfur content of this sample is reported at 0.01%.

Additional metallurgical testing was done on this sample by McClelland Laboratory in Reno, Nevada. This information is also included in this appendix together with an explanation by Mr. Rick Havenstrite.

Back to [Analytical Chemistry Standards](#)

ASTM E1915 - 09

ASTM E1915 - 09 Standard Test Methods for Analysis of Metal Bearing Ores and Related Materials for Carbon, Sulfur, and Acid-Base Characteristics

Active Standard ASTM E1915 Developed by Subcommittee: [E01.02](#) | **Book of Standards Volume:** [03.05](#)

Buy Standard (PDF)	more info	21 pages	\$ 53.00
Buy Standard (Print)	more info	21 pages	\$ 53.00
Buy Standard + Redline (PDF)	why redline?	42 pages	\$ 63.60

ASTM E1915

Significance and Use

These test methods are primarily intended to test materials for compliance with compositional specifications and for monitoring. The determination of carbon and sulfur and acid neutralization potential in ores and related materials is necessary to classify ores for metallurgical processing and to classify waste materials from the mining and processing of ores such as leach residues, waste rock, and tailings according to their potential to generate acid in the environment. This information is useful during mine development to assist in mining and mineral processing operations and for proper disposal of waste materials. These test methods are also used to speciate carbon and sulfur contents of metal-bearing ores and related materials so that acid-base accounting can be performed (that is, carbonate mineral acid neutralization potential (ANP) minus sulfide-sulfur mineral acid generation potential (AGP) = net calcium carbonate (NCC)). Additionally, the test method has utility to identify the amount of organic carbon contained in gold ores so that potential for preg robbing can be identified and rectified through established pretreatment methods prior to cyanidation. (**Warning**—Pyrolysis pretreatment at 550 °C has a potential to thermally decompose some carbonate minerals: (1) transition metal carbonates (for example, siderite, FeCO_3 , and rhodochrosite, MnCO_3) decompose, yielding carbon dioxide, CO_2 , in the range of 220 °C to 520 °C; (2) calcite decomposes slightly between 300 °C and 500 °C, although most decomposition occurs above 550 °C; (3) dolomite decomposes at 800 °C to 900 °C (Hammack, 1994, p. 440).)

These test methods also may be used for the classification of rock to be used in construction, where the potential to generate acid under environmental conditions exists.

It is assumed that the users of these test methods will be trained analysts capable of performing common laboratory procedures skillfully and safely. It is expected that work will be performed in a properly equipped laboratory and that proper waste disposal procedures will be followed. Appropriate quality control practices such as those described in Guide [E882](#) must be followed.

1. Scope

1.1 These test methods cover the determination of total carbon and sulfur and acid-base characteristics in metal bearing ores and related materials such as leach residues, tailings, and waste

rock within the following ranges:

1.2 The quantitative ranges for the partial decomposition test methods are dependent on the mineralogy of the samples being tested. The user of these test methods is advised to conduct an interlaboratory study in accordance with Practice [E1601](#) on the test methods selected for use at a particular mining site, in order to establish the quantitative ranges for these test methods on a site-specific basis.

2. Referenced Documents

ASTM Standards

[D1067](#) Test Methods for Acidity or Alkalinity of Water

[D1193](#) Specification for Reagent Water

[D1976](#) Test Method for Elements in Water by Inductively-Coupled Argon Plasma Atomic Emission Spectroscopy

[D5673](#) Test Method for Elements in Water by Inductively Coupled Plasma--Mass Spectrometry

[D5744](#) Test Method for Laboratory Weathering of Solid Materials Using a Humidity Cell

[D6234](#) Test Method for Shake Extraction of Mining Waste by the Synthetic Precipitation Leaching Procedure

[E1019](#) Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques

[E1601](#) Practice for Conducting an Interlaboratory Study to Evaluate the Performance of an Analytical Method

[E1950](#) Practice for Reporting Results from Methods of Chemical Analysis

[E2242](#) Test Method for Column Percolation Extraction of Mine Rock by the Meteoric Water Mobility Procedure

[E29](#) Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

[E50](#) Practices for Apparatus, Reagents, and Safety Considerations for Chemical Analysis of Metals, Ores, and Related Materials

[E882](#) Guide for Accountability and Quality Control in the Chemical Analysis Laboratory

Index Terms

acid neutralization potential; carbonate carbon content; carbon content; net calcium carbonate content; ores; organic carbon content; related materials; sulfate sulfur content; sulfide sulfur content; sulfur content; tailings; leach residue; waste rock; Carbon content--metals/alloys; Chemical analysis--metals/alloys; Combustion infrared absorption spectrometry; Metal-bearing ores; Spectrometry; Sulfur--metals/alloys; Tailings; Total carbon (TC); ICS Number Code 71.040.50 (Physicochemical methods of analysis)

DOI: 10.1520/E1915-09



ASTM International is a member of CrossRef.

ASTM E1915 (Analytical Chemistry Standards)

[Citing ASTM Standards](#)

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O Jay Gatten

From: Rick Havenstrite [rickh@odcnv.com]
Sent: Tuesday, June 08, 2010 4:25 PM
To: O Jay Gatten; Leslie Heppler
Subject: Re: Desert Hawk Gold - Cactus Mill Large Mine Permit

Jay/Leslie

Jay asked that I attempt to shed light on this subject-- could you guys see if there is some common ground on this point and tweak as needed.

Acid Base characterization--

The acid base sample taken was part of a 200 # metallurgical sample that was later taken to McClelland Labs. This sample was mostly near surface and shows very little sulfur and about 15 times more carbonate than sulfur by weight. In an alkaline environment, this will be strongly acid consuming and the metallurgical tests back this up with consumptions of about 230 pounds of acid per ton of rock-- 1" crush. Net it would be much higher as the calcium feldspar would continue to de-grade over time. I will fax a copy of this test to Jay as it also shows a rapid affinity to return to a higher pH during rinsing (see the last page when I fax it to you).

The geologic interpretations are much more important and useful. All known copper deposits are skarns (limestone replacements) within an alkaline intrusive. The deposits are all highly oxidized to a depth of over 100 feet but the supergene areas at 50-100 feet have quantities of chalcocite and covellite (both beneficial and a supplemental target of the operation) with very minor chalcopyrite and virtually no pyrite. In the Yellow Hammer Pit sulfides comprise much less than 1% of all rocks to a depth of 60 feet. There are essentially zero sulfides showing on the large dumps from this pit.

It seems extremely reasonable that mining below the 100' zone (we actually have no drilling of our own below this)-- should require a re-characterization if significant deleterious sulfides are encountered.

Rick Havenstrite
Desert Hawk Gold Corp.

Test Description: Acid Column Leach Test

Ore Charge	
Initial	20.78 kg (dry)
Final	19.477 kg (dry)
Wt. Loss	1.303 kg
Wt. Loss	6.3 %
Weight Loss Factor	0.9373

Test Conditions

Sample YR-Cu Ore
Feed Size P ₈₀ 30"
Agglomeration YES
Acid Cure YES
Barite Cure YES

Solids Assay % Cu	
Head	1.04
Assay	2.620
Tail	1.04

(Tail grade adjusted for weight loss during leach)

Daily Sulfuric Acid Column Leach Data

Date	Leach Time	Volume L	Raffinate		Cu mg/L	Weight kg	Specific Gravity	pH			Free Acid g/L	Cu g/L	Cu Extraction			Cumulative Acid kg H ₂ SO ₄	
			pH	Free Acid g/L				Volume L	pH	EA			Cum. g	Cum. % Cu	Cum. % of Total	Added kg/m ³ ore	Consumed kg/kg Cu
9/18	Start of Cure	1.20		300.0	0.0												
9/19		0.84		300.0	0.0											19.6	11.5
9/20		0.00														19.6	19.6
9/21		0.00														19.6	19.6
9/22		0.00														19.6	19.6
9/23		0.00														19.6	19.6
9/24		0.00														19.6	19.6
9/25		1.50		300.0	0.0											34.0	19.6
9/26		0.00														34.0	19.6
9/27		0.00														34.0	19.6
9/28		1.50		300.0	0.0											48.5	34.0
9/29		0.00														48.5	34.0
9/30		0.00														48.5	34.0
10/1		2.40		5.0	0.0	3.40	1.255	2.78	2.24	417	0.00	44900	124.822	0.601	22.9	49.1	48.5
10/2		2.40		5.0	0.0	2.56	1.157	2.14	2.14	415	0.00	10090	152.313	0.715	28.1	49.1	48.5
10/3		2.40		5.0	0.0	2.37	1.078	2.31	2.42	412	0.34	7940	171.004	0.823	31.4	50.2	49.6
10/4		2.40		5.0	0.0	2.29	1.013	2.35	2.47	417	0.30	3600	179.276	0.861	32.9	50.8	50.2
10/5		2.40		5.0	0.0	2.30	1.012	2.36	2.52	414	0.34	2430	185.014	0.891	34.0	51.4	50.7
10/6		2.40		5.0	0.0	2.33	1.076	2.36	2.58	413	0.39	1775	189.602	0.912	34.8	51.2	51.2
10/7		2.40		5.0	0.0	2.35	1.036	2.34	2.60	410	0.39	1635	193.404	0.931	35.5	52.5	51.7
10/8		2.40		5.0	0.0	2.37	1.078	2.23	2.62	415	0.49	1430	196.632	0.946	36.1	53.1	52.2
10/9		2.40		5.0	0.0	2.43	1.078	2.41	2.18	419	0.69	1345	199.853	0.962	36.7	53.7	52.7
10/10		2.40		5.0	0.0	2.39	1.078	2.27	2.23	417	0.39	1330	202.860	0.976	37.3	54.3	53.3
10/11		2.40		5.0	0.0	2.37	1.078	2.25	2.16	417	0.59	1270	205.717	0.990	37.8	54.8	53.8
10/12		2.40		5.0	0.0	2.41	1.008	2.39	2.15	412	0.64	1150	208.466	1.003	38.3	55.4	54.3
10/13		2.40		5.0	0.0	2.34	1.006	2.33	2.13	417	0.54	1257	211.395	1.017	38.8	56.0	54.8
10/14		2.40		5.0	0.0	2.30	1.010	2.48	2.16	415	0.74	960	213.527	1.028	39.2	56.6	55.3
10/15		2.40		5.0	0.0	2.16	1.004	2.15	2.11	413	0.59	1063	215.824	1.039	39.6	57.1	55.8
10/16		2.40		5.0	0.0	2.29	1.003	2.27	1.82	412	1.32	1090	218.815	1.053	40.2	57.7	56.2
10/17		2.40		5.0	0.0	2.27	1.003	2.15	2.00	417	0.78	1443	221.397	1.065	40.7	58.3	56.7
10/18		2.40		5.0	0.0	2.16	1.003	2.14	2.05	417	0.59	1092	223.724	1.077	41.1	58.9	57.2
10/19		2.40		5.0	0.0	2.45	1.006	2.42	2.07	413	0.78	1020	226.192	1.089	41.5	59.5	57.7
10/20		2.40		5.0	0.0	2.46	1.006	2.45	2.04	419	0.78	996	228.632	1.100	42.0	60.0	58.2
10/21		2.40		5.0	0.0	2.50	1.006	2.37	1.92	415	1.37	810	231.714	1.110	42.4	60.6	58.6
10/22		2.40		5.0	0.0	1.75	1.006	1.71	2.13	417	0.69	1200	232.566	1.120	42.8	61.2	59.1
10/23		2.40		5.0	0.0	2.87	1.006	2.85	1.89	417	1.13	934	233.777	1.132	43.2	61.8	59.5
10/24		2.40		5.0	0.0	2.34	1.005	2.31	2.11	418	0.63	1017	235.313	1.143	43.6	62.3	60.0
10/25		2.40		5.0	0.0	2.43	1.008	2.46	2.02	413	0.78	950	237.813	1.154	44.1	62.9	60.5
10/26		2.40		5.0	0.0	2.43	1.008	2.46	2.02	413	0.78	950	240.269	1.166	44.5	63.5	61.0
10/27		2.40		5.0	0.0	2.32	1.006	2.31	1.83	413	1.27	1008	242.338	1.177	44.9	64.1	61.4

Mr. Rick Havenshine / Desert Hawk Gold Corp.
MLL Job No. 3379

Test Description: Acid Column Leach Test

Ore Charge	
Initial	20.73 kg (dry)
Final	19.577 kg (dry)
Wt. Loss	1.155 kg
Wt. Loss	6.3 %
Weight Loss Factor	0.9373

Test Conditions

Sample: V8-Co Ore
Feed Size: P ₈₀ 100%
Agglomeration:
Acid Cure: YES
FerriCure:

Solids Assay, % Cu	
Feed	1.94
Assay	2.63%

(Tail grade adjusted for weight loss during leach)

Daily Sulfuric Acid Column Leach Data

Date	Leach Time	Ratios				PLS				Cu Extraction				Cumulative Acid, kg H ₂ SO ₄					
		Volume L	pH	Free Acid		Weight kg	Specific Gravity	Volume L	pH	Ea	Free Acid g/L	Cu mg/L	%	Cum	Cum	%	Added kg/ton ore	kg/ton ore	kg/ton Cu
				g/L	mg/L														
10/28	27	2.40	5.0	0.0	0.0	2.37	1.006	2.35	2.01	45.9	0.50	86.4	2.030	146.628	1.187	45.3	64.6	61.9	3.2
10/29	28	2.40	5.0	0.0	0.0	2.40	1.006	2.38	2.00	45.1	1.17	74.4	1.771	248.398	1.195	45.6	65.2	63.1	3.2
10/30	29	2.40	5.0	0.0	0.0	2.35	1.002	2.35	1.90	45.0	1.12	81.0	1.904	330.302	1.205	46.0	65.8	63.7	3.2
10/31	30	2.40	5.0	0.0	0.0	2.37	1.004	2.36	1.91	45.2	1.13	84.9	2.004	352.305	1.214	46.3	66.4	64.3	3.2
10/1	31	2.40	5.0	0.0	0.0	2.31	1.006	2.30	1.90	44.7	0.83	93.4	2.125	354.431	1.224	46.7	67.0	65.7	3.2
10/2	32	2.40	5.0	0.0	0.0	2.17	1.008	2.35	1.92	45.3	0.74	82.5	1.774	256.304	1.235	47.1	67.5	66.2	3.2
10/3	33	2.40	5.0	0.0	0.0	2.60	1.008	2.61	1.97	45.7	1.47	56.6	1.778	257.943	1.241	47.4	68.1	66.6	3.2
10/4	34	2.40	5.0	0.0	0.0	2.34	1.008	2.32	2.00	45.3	1.03	55.8	1.591	259.933	1.251	47.7	68.7	67.1	3.2
10/5	35	2.40	5.0	0.0	0.0	2.32	1.008	2.30	2.00	45.4	1.47	51.9	1.884	261.817	1.260	48.1	69.3	67.7	3.2
10/6	36	2.40	5.0	0.0	0.0	2.41	1.008	2.41	1.83	45.4	1.37	71.4	1.721	263.538	1.268	48.4	69.8	68.2	3.2
10/7	37	2.40	5.0	0.0	0.0	2.17	1.008	2.15	1.94	45.0	1.08	79.0	1.677	265.215	1.276	48.7	69.8	68.7	3.2
10/8	38	2.40	5.0	0.0	0.0	2.40	1.008	2.40	1.94	45.0	1.08	79.0	1.677	265.215	1.276	48.7	69.8	69.2	3.2
10/9	39	2.40	5.0	0.0	0.0	2.39	1.012	2.36	1.91	44.5	0.73	81.8	1.793	267.433	1.297	49.5	71.5	70.8	3.2
10/10	40	2.40	5.0	0.0	0.0	2.34	1.014	2.31	1.82	44.2	1.47	76.2	1.769	271.233	1.305	49.8	72.1	71.4	3.2
10/11	41	2.40	5.0	0.0	0.0	2.36	1.006	2.35	1.90	44.2	1.08	51.6	1.448	272.681	1.312	50.1	72.7	72.0	3.2
10/12	42	2.40	5.0	0.0	0.0	2.35	1.006	2.34	1.93	44.1	1.20	61.6	1.675	274.357	1.320	50.4	73.3	72.7	3.2
10/13	43	2.40	5.0	0.0	0.0	2.27	1.006	2.26	1.92	44.1	1.06	51.6	1.437	275.794	1.327	50.7	73.9	73.3	3.2
10/14	44	2.40	5.0	0.0	0.0	2.41	1.008	2.39	1.93	44.5	1.25	61.0	1.586	277.300	1.334	50.9	74.4	73.9	3.2
10/15	45	2.40	5.0	0.0	0.0	2.32	1.004	2.31	1.98	43.5	1.23	57.0	1.317	278.616	1.341	51.2	74.9	74.4	3.2
10/16	46	2.40	5.0	0.0	0.0	2.44	1.010	2.42	1.88	44.2	1.57	53.8	1.350	279.967	1.347	51.4	75.0	74.9	3.2
10/17	47	2.40	5.0	0.0	0.0	2.30	1.012	2.37	1.94	44.2	1.42	77.0	1.748	281.715	1.356	51.7	75.6	75.0	3.2
10/18	48	2.40	5.0	0.0	0.0	2.39	1.004	2.38	1.92	44.3	1.32	67.8	1.436	283.260	1.363	51.0	76.2	75.0	3.2
10/19	49	2.40	5.0	0.0	0.0	2.43	1.002	2.45	1.82	45.3	1.32	52.0	1.507	284.767	1.370	52.3	76.8	75.0	3.2
10/20	50	2.40	5.0	0.0	0.0	2.37	1.008	2.35	1.81	45.2	1.32	54.6	1.518	286.285	1.378	52.5	77.3	75.0	3.2
10/21	51	2.40	5.0	0.0	0.0	2.36	1.008	2.34	1.84	45.2	1.18	59.2	1.610	287.895	1.385	52.9	77.9	75.0	3.2
10/22	52	2.40	5.0	0.0	0.0	2.35	1.008	2.33	1.83	45.2	1.18	59.2	1.581	289.514	1.393	53.2	78.5	75.0	3.2
10/23	53	2.40	5.0	0.0	0.0	2.25	1.008	2.24	1.79	45.4	1.18	59.2	1.458	291.176	1.401	53.5	79.1	75.0	3.2
10/24	54	2.40	5.0	0.0	0.0	2.33	1.006	2.32	1.78	45.2	1.37	63.8	1.368	292.656	1.408	53.8	79.6	75.0	3.2
10/25	55	2.40	5.0	0.0	0.0	2.35	1.008	2.34	1.84	45.2	1.18	59.2	1.458	293.992	1.414	54.0	80.2	75.0	3.2
10/26	56	2.40	5.0	0.0	0.0	2.33	1.006	2.32	1.75	45.2	1.37	63.8	1.368	295.306	1.421	54.2	80.8	75.0	3.2
10/27	57	2.40	5.0	0.0	0.0	2.45	1.006	2.44	1.80	45.1	1.57	53.8	1.438	296.719	1.428	54.5	81.4	75.0	3.2
10/28	58	2.40	5.0	0.0	0.0	2.32	1.008	2.30	1.81	45.1	1.37	63.8	1.368	298.063	1.435	54.8	81.9	75.0	3.2
10/29	59	2.40	5.0	0.0	0.0	2.41	1.008	2.39	1.79	44.9	1.32	53.8	1.451	300.077	1.444	55.1	82.5	75.0	3.2
10/30	60	2.40	5.0	0.0	0.0	2.17	1.004	2.16	1.81	45.1	1.13	72.4	1.364	302.973	1.458	55.6	83.1	75.0	3.2
10/31	61	2.40	5.0	0.0	0.0	2.42	1.004	2.41	1.81	45.1	1.13	63.0	1.404	304.462	1.471	56.1	83.8	75.0	3.2
10/1	62	2.40	5.0	0.0	0.0	2.39	1.004	2.38	1.78	45.4	1.01	61.0	1.432	306.273	1.482	56.5	84.4	75.0	3.2
10/2	63	2.40	5.0	0.0	0.0	2.43	1.006	2.44	1.84	45.2	1.56	55.5	1.489	308.462	1.495	56.9	85.1	75.0	3.2
10/3	64	2.40	5.0	0.0	0.0	2.45	1.006	2.46	1.84	45.2	1.56	55.5	1.489	310.653	1.508	57.3	85.7	75.0	3.2
10/4	65	2.40	5.0	0.0	0.0	2.43	1.002	2.45	1.82	45.2	1.52	53.4	1.415	312.709	1.518	57.7	86.0	75.0	3.2
10/5	66	2.40	5.0	0.0	0.0	1.83	1.004	1.82	1.75	45.6	1.13	57.6	1.408	314.977	1.526	58.0	86.3	75.0	3.2

Mr. Rick Havenshrie / Desert Hawk Gold Corp.
MIL Job No. 3379

Test Description: Acid Column Leach Test

One Charge
Initial 20.78 kg (dry)
Final 19.77 kg (dry)
Wt. Loss 1.00 kg
Wt. Loss 4.3 %
Weight Loss Factor 0.9733

Test Conditions
Sample YH-Cu Ore
Feed Size P₈₀ < 75
Agglomeration
Acid Cure YES
Ferrous Cure

Subst Assay % Cu
Feed Assay 2.526
Tail Assay 1.94

(Tail grade adjusted for weight loss during leach)

Daily Sulfuric Acid Column Leach Data

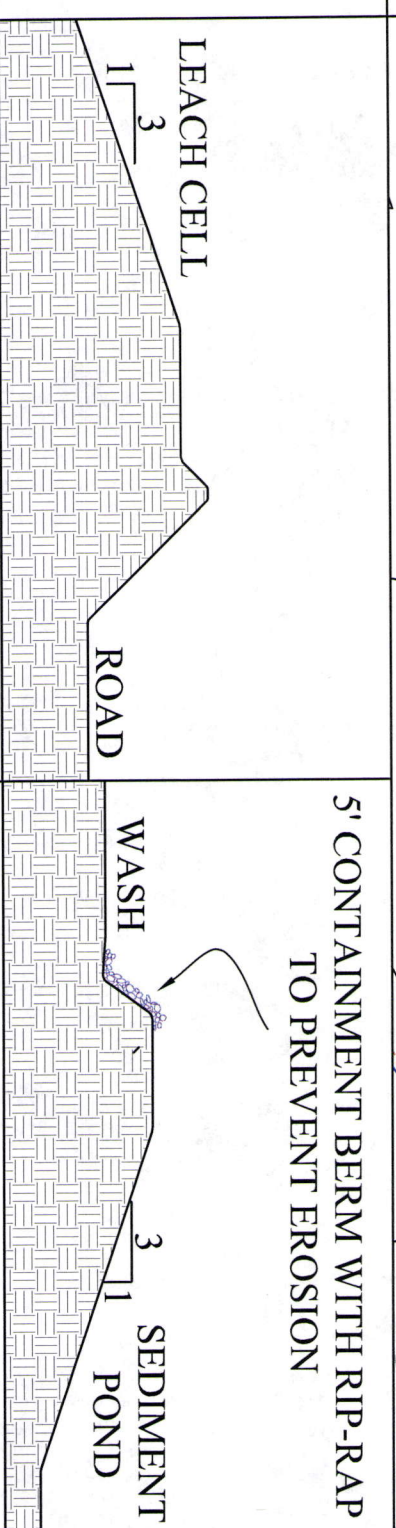
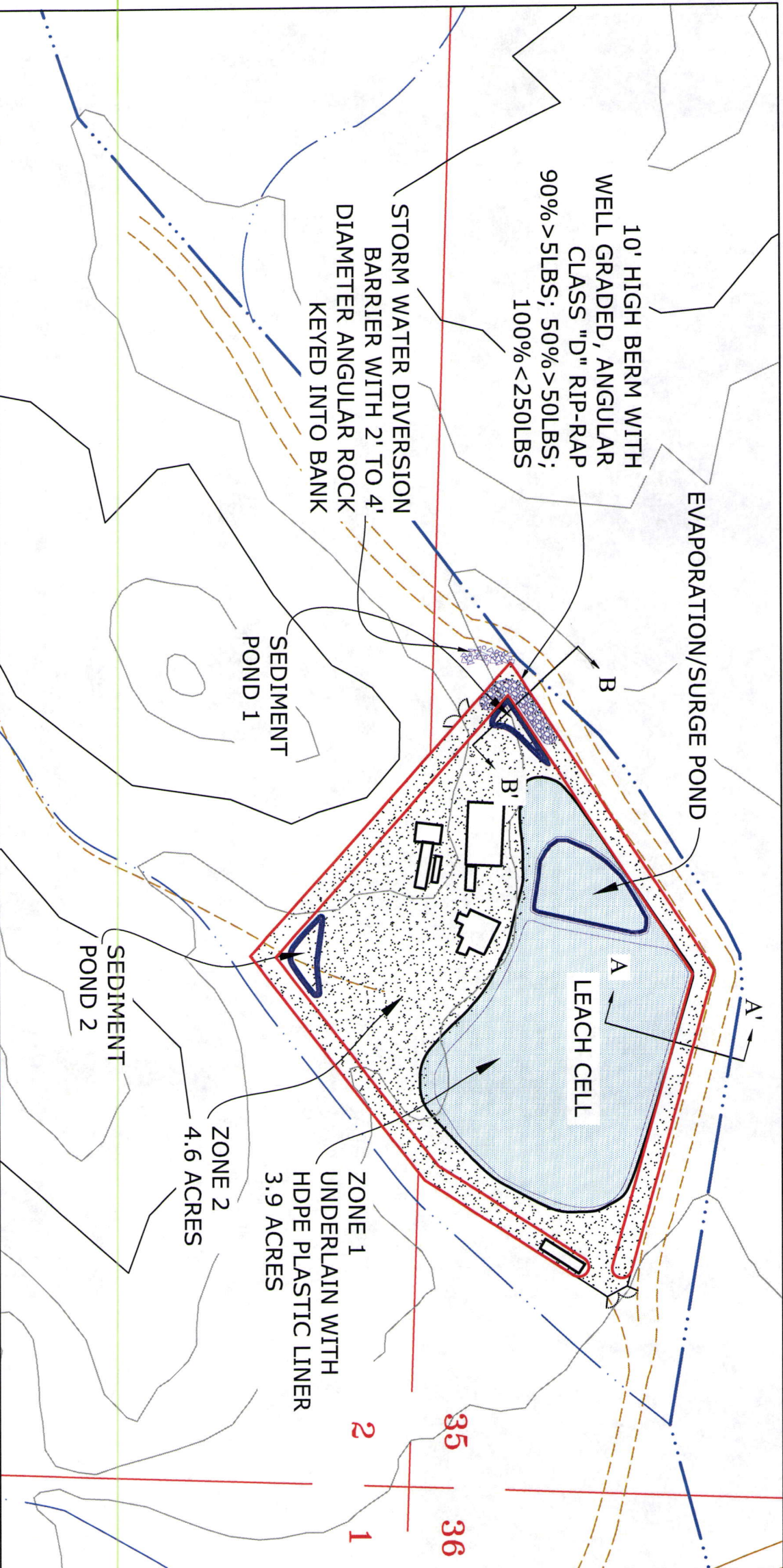
Date	Leach Time days	Ratios			P.L.S			Cu Extraction			Cumulative: Acid kg H ₂ SO ₄		
		Volume L	pH	Free Acid g/L	O ₂ g/L	Weight kg	Specific Gravity	Volume L	pH	Free Acid g/L	Cu mg/L	%	g
1/6	97	0.00											
1/7	98	2.40	3.0	0.0	0.0	3.07	1.024	3.06	1.76	432	513	1.55	311.162
1/8	99	2.40	3.0	0.0	0.0	2.13	1.026	2.12	1.83	438	690	1.480	312.642
1/9	100	2.40	3.0	0.0	0.0	2.40	1.026	2.39	1.75	435	690	1.424	314.076
1/10	101	2.40	3.0	0.0	0.0	2.40	1.026	2.39	1.76	430	690	1.377	315.533
1/11	102	2.40	3.0	0.0	0.0	2.31	1.006	2.39	1.85	432	692	1.355	317.038
1/12	103	2.40	3.0	0.0	0.0	2.41	1.006	2.40	1.81	433	643	1.355	318.593
1/13	104	2.40	3.0	0.0	0.0	2.40	1.006	2.39	1.58	432	706	1.302	320.496
1/14	105	2.40	3.0	0.0	0.0	2.36	1.008	2.34	1.57	439	524	1.226	321.722
1/15	106	2.40	3.0	0.0	0.0	2.36	1.008	2.34	1.56	449	530	1.257	322.909
1/16	107	2.40	3.0	0.0	0.0	2.43	1.004	2.42	1.72	453	592	1.384	324.383
1/17	108	2.40	3.0	0.0	0.0	2.31	1.004	2.30	1.72	453	592	1.362	325.755
1/18	109	2.40	3.0	0.0	0.0	2.39	1.004	2.33	1.79	451	644	1.416	327.191
1/19	110	2.40	3.0	0.0	0.0	2.43	1.004	2.38	1.81	451	674	1.604	328.795
1/20	111	2.40	3.0	0.0	0.0	2.43	1.004	2.42	1.72	453	546	1.721	330.116
1/21	112	2.40	3.0	0.0	0.0	2.25	1.026	2.25	1.81	444	544	1.724	331.340
1/22	113	2.40	3.0	0.0	0.0	2.44	1.034	2.43	1.53	450	504	1.775	332.565
1/23	114	2.40	3.0	0.0	0.0	2.30	1.034	2.29	1.59	445	618	1.415	333.980
1/24	115	2.40	3.0	0.0	0.0	2.37	1.034	2.26	1.60	450	566	1.336	335.316
1/25	116	2.40	3.0	0.0	0.0	2.38	1.032	2.28	1.58	447	540	1.285	336.601
1/26	117	2.40	3.0	0.0	0.0	2.37	1.036	2.26	1.51	450	546	1.289	337.890
Begin Run Cycle													
1/27	118	2.39	3.0	0.0	0.0	2.16	1.026	2.15	1.93	449	562	1.423	339.313
1/28	119	2.40	3.0	0.0	0.0	2.63	1.032	2.62	1.85	454	490	1.253	340.571
1/29	120	2.40	3.0	0.0	0.0	2.34	1.000	2.34	2.13	437	512	1.147	341.718
1/30	121	2.40	3.0	0.0	0.0	2.36	1.000	2.36	2.30	419	524	0.595	342.317
1/31	122	2.40	3.0	0.0	0.0	2.34	1.000	2.34	2.72	406	162	0.395	342.712
2/1	123	2.40	3.0	0.0	0.0	2.34	1.000	2.34	2.38	391	123	0.100	343.013
2/2	124	2.40	3.0	0.0	0.0	2.13	1.000	2.13	3.02	396	105	0.265	343.278
2/3	125	2.40	3.0	0.0	0.0	2.34	1.000	2.34	3.01	394	105	0.247	343.525
2/4	126	2.40	3.0	0.0	0.0	2.31	1.000	2.31	3.04	407	85	0.195	343.721
2/5	127	2.40	3.0	0.0	0.0								

Extracted, % 1.65
Tail Assay, % 1.94
Adjusted Tail Assay, % Cu 0.97
Calculated Brend, % 1.61
Recovery, % 63.0

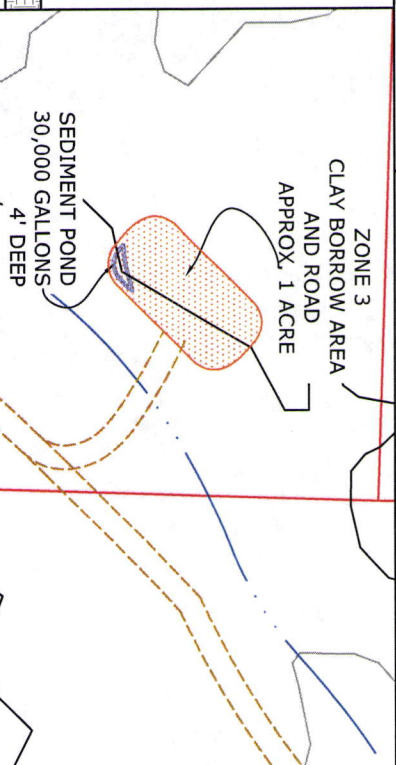
R 18 W

T 7 S

T 8 S



CROSS SECTION
A - A'
NOT TO SCALE



CROSS SECTION
B - B'
NOT TO SCALE

RECEIVED

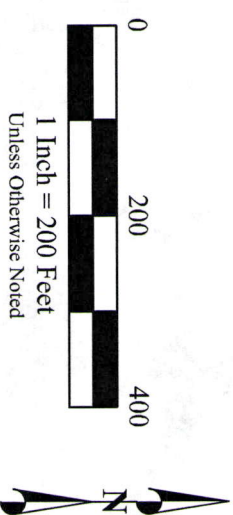
JUN 09 2010

LEGEND

- ZONE 1 PAD 3.9 ACRES
- ZONE 2 MILL SITE 4.6 ACRES
- ZONE 3
- CLAY BORROW & ACCESS ROAD 0.9 ACRES & 0.1 ACRES
- 5' CONTAINMENT BERM AROUND MILL SITE
- PROTECTIVE RIP-RAP OVER HDPE PLASTIC LINER
- POND
- FENCING
- GATE
- WASH

POND CAPACITIES

EVAPORATION / SURGE POND	
WORKING VOLUME	1.75 ACRE FEET (570,000gal)
3' FREE BOARD VOLUME	1.20 ACRE FEET(387,000gal)
SEDIMENT POND 1	0.40 ACRE FEET (120,000gal)
SEDIMENT POND 2	0.60 ACRE FEET (190,000gal)
SEDIMENT POND AT CLAY BORROW AREA	0.10 ACRE FEET (30,000gal)



DESERT HAWK GOLD CORP.
CACTUS MILL LARGE MINE OPERATION

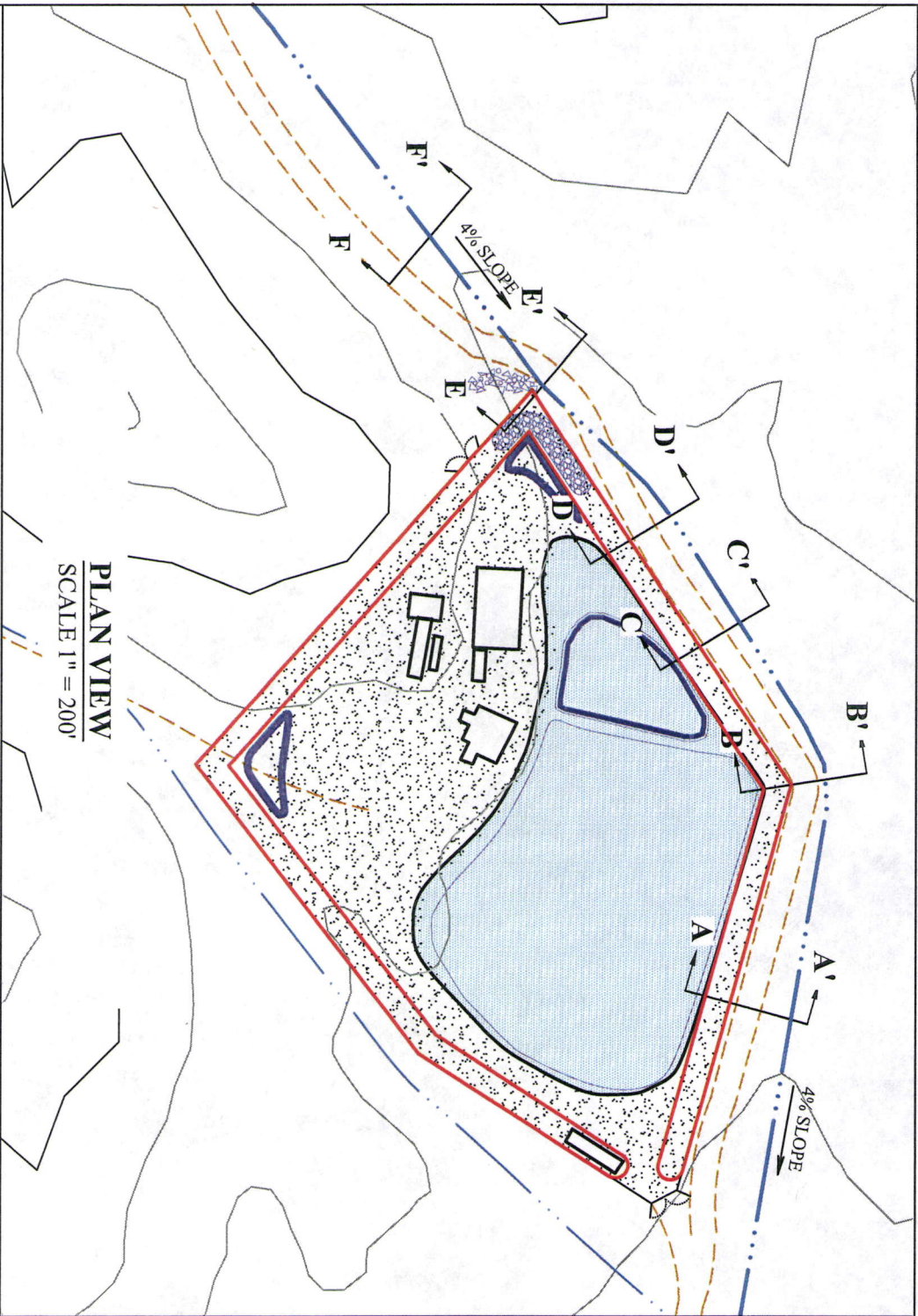
SWMP-2

STORM WATER MANAGEMENT PLAN
TOOELE CO. UTAH

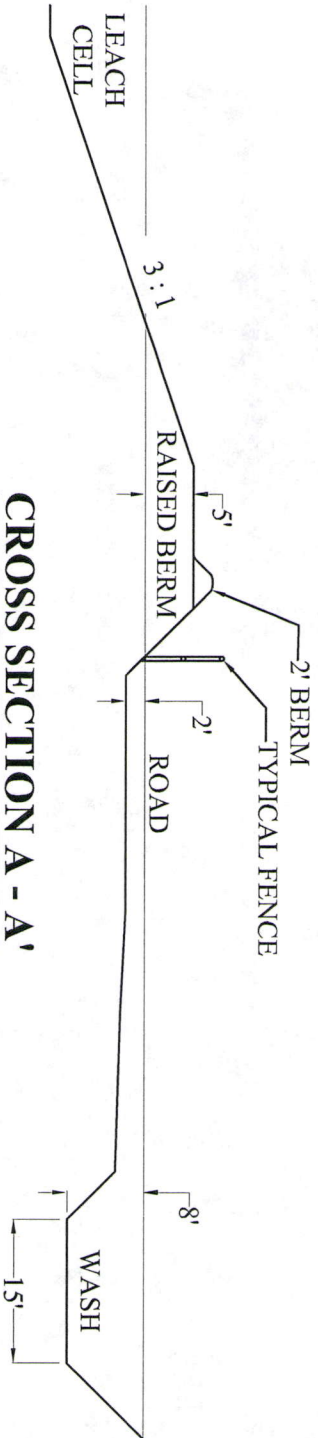
Date: Apr-10 storm water.dwg

NORTH AMERICAN EXPLORATION
447 N 300 W, Suite 3
Kaysville, UT 84037
801-544-3421

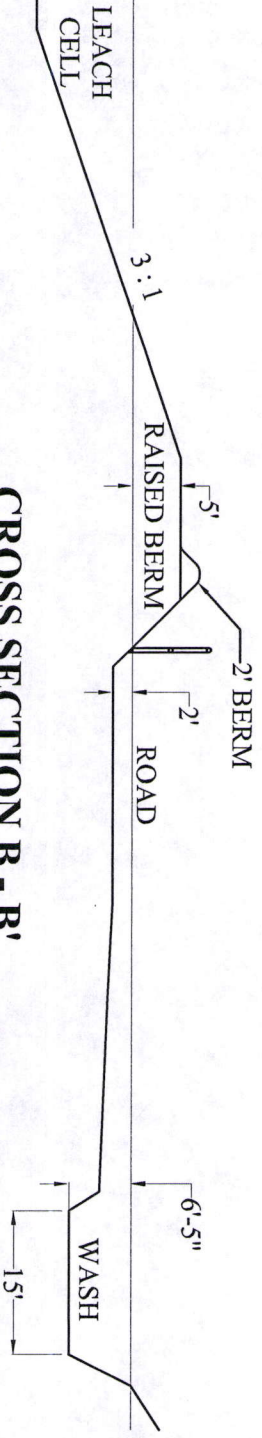




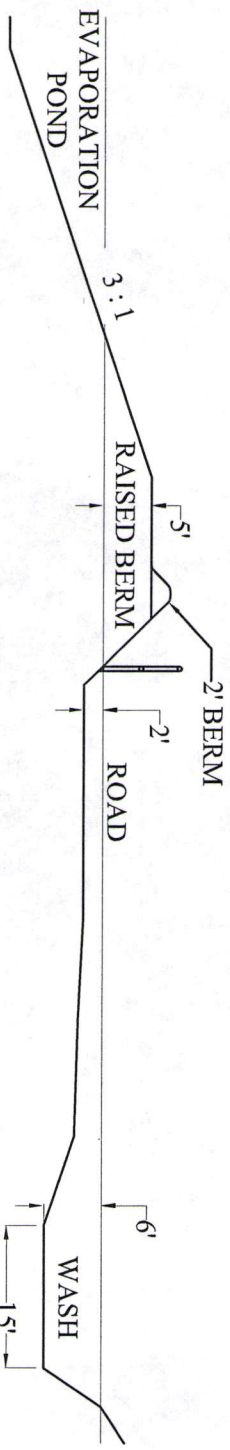
PLAN VIEW
SCALE 1" = 200'



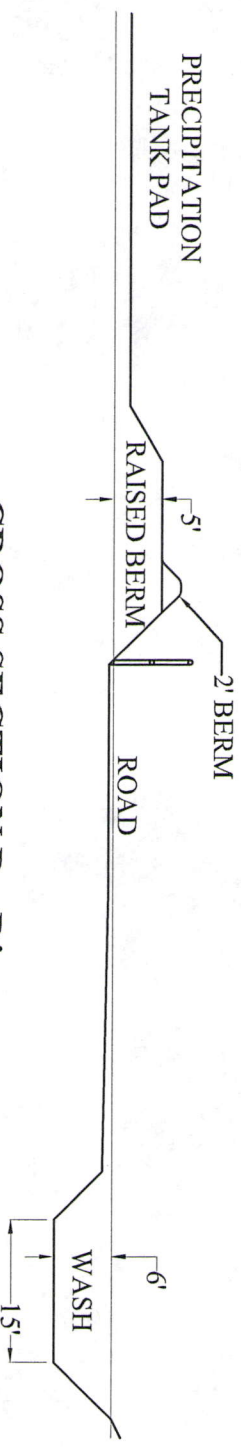
CROSS SECTION A - A'
SCALE 1" = 20'



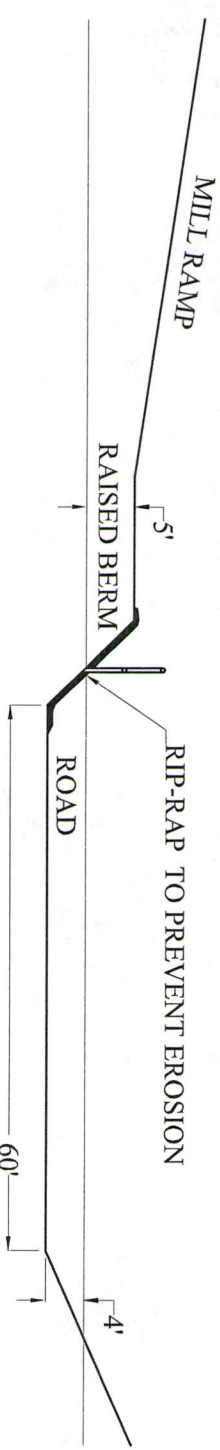
CROSS SECTION B - B'
SCALE 1" = 20'



CROSS SECTION C - C'
SCALE 1" = 20'



CROSS SECTION D - D'
SCALE 1" = 20'



CROSS SECTION E - E'
SCALE 1" = 20'

NATURAL WASH

DESERT HAWK GOLD CORP.
CACTUS MILL LARGE MINE OPERATION

SWMP-4
STORM WATER CHANNEL
& CROSS SECTIONS
TOOELE CO, UTAH

Date: Apr-10 storm water.dwg

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RECEIVED
JUN 09 2010
SECTION F - F'
DIV. OF OIL, GAS & MINING
SCALE 1" = 20'

